

ELEMENTARY SCHOOL CURRICULUM

ELEMENTARY SCHOOL CURRICULUM: theory and research

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PREFACE

THIS IS A BOOK that emphasizes not the present status of things in education but where we need to grow, to experiment. It presents the concept of personality growth or individual growth as defined in anthropology, psychoanalysis, social psychology, and sociology as the focal point for the educator's curriculum work. In this it supports the educator's efforts to preserve and foster individuality. A comprehensive theory of curriculum based on what is known about individual growth is stated explicitly and carried into the day-to-day work of the teacher in the classroom. This is a factual answer to those who pretend to see no harm in large classes, crowded schools, and de-personalization by machines. The term "personality growth" is a useful one which allows the educator to utilize the contributions of other behavioral sciences in the understanding of individual growth.

The book stresses the school's role in teaching the methods and values of a free society, pointing up the important concept that a free society is basically an ethical society. The school has responsibility for the development of ethical relationships and generalizations.

The ways in which one school should differ from another are discussed and illustrated in a section of the book that shows the connection between the autonomy of the individual school and the professionalization of the teacher.

We have come to another critical period in public education when a lack of knowledge on the part of many as to how children really learn threatens a balanced curriculum program. The chapter called "Dynamics of

Children's Learning" is derived from both classroom and clinical experience with the learning problems of children. It is hoped that the contributions of dynamic psychology to personality growth will increase both public and professional understanding of growth and learning in the public schools.

The lack of research of adequate complexity on certain crucial problems in curriculum development has made it difficult for the educator to furnish research evidence for the kind of education his experience leads him to believe most valuable. Although a single text cannot solve this problem, it points the direction and the need for certain important research efforts.

How to read the book

Some readers will want to read this book as it is written, from Chapter 1 to Chapter 15. This may be true particularly of those of a more deductive turn of mind. Beginning with the basic postulates making up the curriculum theory in Chapter 1, they may read on to the detailed justification for these postulates in Chapters 2 through 5. Other readers of a more inductive turn may want to read Chapters 2 through 5 first and then return to the postulates in Chapter 1 as the generalizations made after an inductive approach to understanding individual growth. The reader will easily see the value of working back and forth between the theory and detailed research and experience reported in subsequent chapters.

Acknowledgments

The author owes to many individuals in all the behavioral sciences his sincere appreciation for ideas, stimulation, and support of this effort. Particular thanks go to Norma G. Haan, Institute of Human Development, University of California, whose clinical insight and experience have contributed significantly to the entire book, but especially to Part 1 of the book.

Appreciation is expressed for the contributions that experienced teachers in graduate study from Salt Lake City to Honolulu have made to the author's knowledge of children and curriculum. Consultants in the field who have read and criticized portions of the manuscript are Mrs. Bernadine C. Wierson, Curriculum Consultant, San Joaquin County; Robin Briscoe, Curriculum Consultant, San Jose School District; and Irving Wasserman,

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INDIVIDUAL GROWTH

vidual is simpler. He is not faced with a multiplicity of choice. The socializing process tends to be the same for him and for all others he knows. Although the customs and mores he must learn may be complicated, there is certainty that these are the things he must learn. He is not faced with a confusion of values, of roles, of requirements for competence.

The schools in a free society have a more complicated set of purposes. They are expected to help children meet a more involved set of societal expectations and also become the kind of individuals who can recreate for each generation a free society in a changed and changing technological situation. This calls for a fuller development of the individual than in any other kind of society. Here it becomes important to give thought not only to what an individual knows or can do, but also to what he is in his interaction with others with whom he must work to maintain a free society. In a real sense, the free society puts more burden on the individual's conscience, on his inner control, than any other kind of society. The need for guiding and organizing theories of curriculum development in our kind of free society is apparent.

INADEQUACY OF IMPLICIT ASSUMPTIONS

Every teacher operates on the basis of assumptions which in a sense are the theories guiding his teaching. These theories are usually implicit, that is, not expressed. Nevertheless they determine how the teacher thinks children learn and grow. Operating on such implicit bases the teacher may arrive at inconsistent assumptions for which, of course, there is no supporting evidence. It is the purpose of this text to state an explicit theory as a basis for curriculum development. An explicit theory can be broken down into hypotheses and tested, defended, and modified—actions not possible to implicit bases of curriculum. The statement of explicit theory calls the attention of the curriculum worker to the fact that other sets of assumptions, other theories, may be just as valid as a basis of working with children, for example, as those now employed. The assumption, for example, that elementary school children's experience with mathematics should be almost entirely arithmetic might profitably be replaced by a quite different assumption: that all mathematics should be unified and that algebraic concepts should be taught beginning in kindergarten. It is important in the curriculum field that the basic theory be clearly stated. An adequate statement

1. THEORY OF INDIVIDUAL GROWTH AND CURRICULUM DEVELOPMENT

IN THE PREFACE there is a brief note about how to read this text, but a little more can be said about it here for those who do not read prefaces. This chapter presents a comprehensive theory of human growth and its relationship to elementary school curriculum development. This theory arises from many research efforts of a large number of people working in nearly all the behavioral sciences. It would probably be wise for most readers, and particularly for those who like to approach things inductively, to read Chapters 2, 3, 4, and 5 first and then return to the succinct, abstract statements making up the theory in Chapter 1. If this is done the reader will know on what evidence each aspect of theory is based. He may then be ready for the next step of applying theory to hypotheses, to curriculum research, and to classroom curriculum.

In a free society the role of the individual is a more complicated one than in those societies where the individual is denied access to participation in policy making and other essential co-operative action. In homogeneous societies the problem of the indi-

of theory gives direction to curriculum improvement. It helps keep everyone honest in his thinking as to what is really known, what is simply assumed upon the basis of some kind of evidence, and what is really quite without foundation. It also makes it easier to entertain the idea that another theory or set of assumptions could replace the one in use and, hence, pave the way for experimentation. It is, of course, in research that theory must be most carefully developed and tested.

VALUE OF A UNIFIED THEORY

Practice tends to be carried on in terms of different assumptions. We are likely to learn "pieces of behavior," some behaviors that work in this situation and other kinds that work in a different situation. In the absence of a unified theory the inconsistency may be ignored or not even noted. An individual may operate in the political sector of his thinking in terms of "rugged individualism" and oppose social security measures intended to provide for society's growth and relief from economic tension. On the other hand, in his relations with his family or children in a school he may stress emotional security and acceptance as basic to growth. Another person may be a restricted, conservative individual in his thinking about schools, favoring arbitrary discipline and emphasis on learning by drill, but be a flexible, liberal individual when he thinks about political issues.

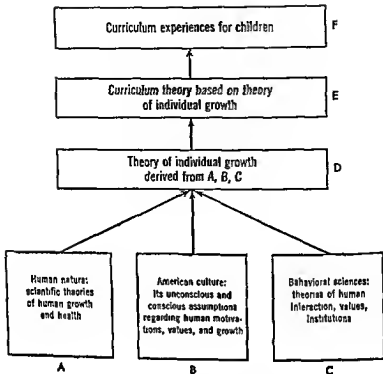
Most of us are not greatly bothered by our own inconsistency. Our responses to different kinds of situations were learned separately, and we are unaware that the assumptions upon which our behavior is based are incompatible. It is the responsibility of professional workers, however, to examine the theories that seem to control their own behavior. Their ideas about learning, emotional maturity, socialization, the role of adults in children's education, school organization, criteria for modifying institutional arrangements, mental health, educational method, and related areas, need the framework of a larger, more inclusive theory. An inclusive, unified theory of human behavior is a requisite for progress in the field of education. The lack of it has been one of the main factors responsible for the almost negligible research in curriculum development. The lack of a comprehensive, defensible theory has also made it easy for outside groups to attack the school program. The spectacle of educational practice swinging from one point of view to another is not a happy one. At one time we are

INDIVIDUAL GROWTH THEORY BASIC TO CURRICULUM

The aspects of personality theory presented below can not be an exhaustive list. However, comprehensiveness and particular application to curriculum are the two factors of selection. The research support for the theories is indicated in the chapters to follow. The aspects of theory are grouped about these focuses of personality theory: (1) stages of development, (2) socialization, (3) free society, (4) learning, and (5) role of the adult.

A UNIFIED THEORY OF PERSONALITY OR INDIVIDUAL GROWTH

- I Personality is developed as a complex response to internal (biological and psychological) and external (socializing) factors.
- II There are broadly identifiable stages of individual growth through which all human beings progress.
- III At each different stage in human growth there are major internal conflicts that must be adequately resolved if the individual is to continue normal growth.
- IV The major conflicts for which resolutions are sought occur in all individuals in the same order. Variations occur in the age of appearance and in the intensity with which the conflict is felt by the individual.
- V Each individual must continue to experience reinforcement of his solution to these conflicts throughout life. He develops means of varying adequacy to defend himself against a sense of failure of his solutions. Neurotic defenses are inflexible, repetitive. Healthy methods of coping with individual solutions are flexible, developmental.
- VI The first problem for the individual is between trust in others and himself, and a basic distrust of others and of his own power (referred to as the *oral stage*).
- VII The second major problem for the individual is between a sense of autonomy and a sense of shame and doubt, with an ensuing fruitless fight against authority (referred to as the *anal stage*).
- VIII The third problem for the individual is between a sense of initiative and a sense of guilt about initiative activities (referred to as the *oedipal stage*).



a body of scientific fact and theory about human heredity, organic functioning, and growth. This body of fact and theory is indicated in the diagram by A. Curriculum is never actually started from the beginning. There are existing practices and beliefs about practice. There is also a body of assumptions in the community about human motivations, values, growth. These assumptions, unconscious and conscious, are significantly persistent and tenacious. They tend to pull educational practice back into approximate conformity with these assumptions when it deviates markedly. This kind of influence is indicated at B. The theories and facts about human interaction that make up the behavioral sciences are also a source of educational theory. These are shown in the diagram at C. The creation of a deliberate theory of individual growth takes all these (A, B, C) into account. Individual growth theory (shown at D) is the basis for curriculum theory (shown at E). A curriculum theory so derived becomes the basis for selecting and organizing experiences of children in the elementary school.

- XXI Subject matter in the curriculum has two broad functions in individual growth: (1) at different stages of development particular subject matter has symbolic meaning related to the individual's growth problems; and (2) it constitutes, when adequately selected, the reality of society's expectations as to what must be known if the individual is to participate in his culture.
- XXII The organization of subject matter scope and object matter sequence is most effective when related to the stages of personality development and the problems characteristic of them.
- XXIII Schools organized so that neurotic and undemocratic solutions are not perpetuated are more effective in fostering child growth than schools that do not consider this in curriculum making.

PERSONALITY GROWTH THEORY AND SOCIALIZATION

The concept of socialization is part of personality development theory. It refers to the lengthy, complicated process by which children learn to act as adult members of the society to which they belong. Much of what happens to him, that shapes his personality, is unconscious both to him and to the adults from whom he learns in interaction. Kluckhohn¹ wrote, "And so the culturally stylized aspects of nursing, the usual ways of dressing a child, the accepted rewards and punishments in toilet training are all equally part of an unconscious conspiracy to convey to the youngster a particular set of basic values." The socializing efforts of the culture affect children differently because of fundamentally different biological equipment—temperament, motility, aggressiveness.

The school as one of the principal agents of socialization will be more effective if it can understand the socialization process that goes on in the families and communities from which children come, and also if it can be conscious of its own socializing impact and the effect of this upon personality development of children. A more adequate development of socialization in relation to personality is contained in Chapters 2, 3, and 4. The material in Chapter 5 is especially important.

The aspects of personality or individual growth theory involved with the concept of socialization are listed below:

- IX The fourth major problem for the individual is between a sense of competence and a sense of inferiority and inability (referred to as the *latent stage*).
- X The fifth major problem for the individual is between a sense of personal identity and a sense of confusion as to who he is (referred to as the *identity formation stage*).
- XI The sixth major problem for the individual during late adolescent period is between a sense of intimacy and a sense of isolation.
- XII The seventh major problem for the individual, occurring during the period of early adulthood, is between a sense of parental care and self fixation.
- XIII The major problem for the individual during late adulthood is between a sense of integrity and a sense of despair and disgust.
- XIV A large part of children's behavior stemming from internal conflict is of unconscious origin.
- XV Most unconscious conflicts cannot be solved by conscious fulfillment, but some of the foregoing developmental problems can be helped to solution by the use of conscious educative experiences.
- XVI Resolving an internal conflict or achieving a balance between society's expectancies and internal needs is not necessarily synonymous with flexibility and growth.
- XVII Personality structures developed in the past affect the experiencing of one's present, and the experiencing of one's present may re form the personality structures developed in one's past.

The following aspects of basic personality growth theory relate more directly to the work of the school:

- XVIII The major task of the school is personality growth of the child.
- XIX Children will learn better in schools where curriculum experiences are provided to aid the child in solutions to his major internal conflicts.
- XX School education involves as a major goal the freeing of the child from impeding, distorting inner conflict. The success of the school as a mediator between the culture and the individual depends on this being accomplished.

- XXXII The effectiveness of the school in helping children grow into effective members of a free society depends on establishing of basic interpersonal relationships in school emphasizing "flexibility, freedom to learn through experience, freedom to change with circumstances, response to reasonable argument and admonition, response to appeals to the emotions, freedom to respond appropriately to reward and punishment, and freedom to stop when sated."²
- XXXIII If children are to develop into effective members of a free society the *methods* appropriate to free societies will be included in the socializing experiences children have in the family and in school.
- XXXIV The perpetuation of a free society is dependent upon children's learning both cognitive and emotional aspects of human interaction appropriate to free societies.
- XXXV A free society is dependent upon institutional arrangements that minimize the problems of self-preservation that erode the capacity for affectionate and cooperative relationships.

PERSONALITY GROWTH THEORY AND LEARNING

The relation between learning and personality growth theory is more fully developed in Chapter 3. It should be noted that a broad concept of learning is involved here. The separation of the field of learning into parts by academic research psychologists was a disservice to the educator who must deal with a dynamic individual replying in very complex ways to a situation with varied and varying characteristics. Snygg³ stated that "Personality development is the goal of all our acts and learning is the result of our attempts to achieve it." In this text and in the theory involved we are concerned with all learning. We are as much interested in how the individual learns the kind of flexibility needed in our novelly developing society as we are in his learning the fundamental processes in arithmetic. Dewey thought that learning the scientific method provided security for the individual in that he thereby had a way to meet novel situations. For modern man, we would need to add to this the inner security that arises from a resolution of internal conflicts and a knowledge of self.

Below are aspects of personality growth, or individual growth (we

- XXIV Broadly, different socioeconomic groups, communities, regions, and societies have different cultures, their socializing impact varying from that of other such groups.
- XXV Each family is a unique culture, its socializing impact varying from that of other families.
- XXVI Each school has a culture of its own, the socializing impact of which varies from that of other schools.
- XXVII Not all social patterning or socialization is equally effective. Some social patterning and socialization lead to flexibility for individuals and others lead to discomfort or destruction of the group.
- XXVIII Evaluation as to the effectiveness of socialization practices can be made using the criteria from personality development theory.
- XXIX The effectiveness of the school's curriculum is increased if curriculum varies in response to the differences in the socializing experiences children have at home and in the neighborhood.

FREE SOCIETY AND PERSONALITY GROWTH

It is the basic assumption of our society that the welfare of the individual is paramount. His welfare, broadly speaking, is the principal criterion of the success of our institutional arrangements. We assume that this state of affairs can be secured only if the individual is enabled (1) to participate widely, (2) to share decisions, (3) to question policy and action, (4) to demand that the test of scientific thinking be applied to problems, and (5) to respect others' rights to have these same freedoms and protections. It is also assumed that adequate growth of the individual is dependent upon the existence of a climate of freedom and responsibility. It is proposed that the test of institutions can be made in terms of individual growth theory.

Below are six aspects of individual growth theory related to the maintenance of a free society.

- XXX Institutions are expressions of human personality, its great potential variability, as well as its ultimate limits as determined by the basic biological equipment of the human being.
- XXXI The ability of adults to live effectively as members of a free society is partly dependent upon basic relationships experienced as young children in their families.

choice of methods, the pursuit of drill, and the evaluation of achievement.

- XLVII In learning to make personal choices, vocational ones, for example, the child needs help in developing a sense of personal identity. School experiences that give children a strong awareness of what they are and are not and what they can and cannot do will contribute to their sense of identity.
- XLVIII Acceptance of the child by the teacher and other adults will not contribute a sense of identity unless the "acceptance" is continually defined in specific ways.

PERSONALITY GROWTH THEORY AND THE ROLE OF THE ADULT

The child wants to learn. He wants to be like the seemingly all-powerful, all-knowing adults about him and to incorporate their powers into himself. In his identification with adults lies one of his principal early motivations. The role of the adult during the elementary school period is hence a vital one. It is important that the teacher allow the children to see him as a total human being, one with emotions, knowledge, and lacks of knowledge. What the adult *is* educates children. Ultimately the child must separate himself from adults and assume an identity felt to be peculiarly his. In this process also the adult has a role, a sort of "de-authoritizing"⁴ role applied to himself.

In the following by no means exhaustive list, the principal theory of the teacher's role is broadly stated.

- XLIX The teacher's personality growth is a significant factor in the learning of children with whom he interacts in the classroom situation.
- I. Teachers who have not adequately resolved their own developmental conflicts tend to work out their problems using the children in the classroom.
- LI Teachers who have not adequately resolved their own developmental conflicts of intimacy, parental sense, and mature integrity will be less effective in aiding children with their developmental problems.
- LII Teachers who are mature objects for incorporation, introjection, and identification by children can bring about

shall use the terms interchangeably throughout the book), as they relate to learning. The list is by no means exhaustive.

- XXXVI Learning is a total of the child's attempt to resolve the problems that personality development represents for him.
- XXXVII The use of energy to resolve conflicts that have not been adequately solved reduces the ability of most children to learn and atrophies the learning of some children in particular areas.
- XXXVIII Learning is more rapid and forgetting is lessened when impeding and distorting inner conflict is absent.
- XXXIX If learning is to occur, basic impulses must be restrained, transformed, and diverted.
- XL All learning has inseparable cognitive and emotional aspects; learning experiences planned to take both into account will be more effective in terms of learning than experiences planned only with either cognitive or emotional aspects in mind.
- XLI Learning is always multiple; learning experiences that are planned with "bundled" objectives in mind will be more effective than experiences focused on single objectives.
- XLII The strength and frequency of an individual's attempt to satisfy need is due not to one simple need but to several.
- XLIII Most motivation to learn probably arises initially from the child's incorporation of and identification with loved adults; the individual is self motivated when he has made the aspects of loved adults with whom he has identified his own and has separated himself from the adults.
- XLIV Children who have been helped to reduce inner conflicts resulting from their developmental history will be most consistently creative in their thinking.
- XLV The values children learn are the result of basic early relations with parents; modifications of children's values in school are the result of significant relationships with teachers and peers.
- XLVI Learning is more rapid when the learner is enabled to be autonomous in the setting of immediate goals, the

- Dewey, John, and James H. Tufts, *Ethics*. New York: Henry Holt and Company, Inc., 1908.
- Erikson, Erik H., *Childhood and Society*. New York: W. W. Norton & Company, Inc., 1950.
- Erikson, Erik H. *Young Man Luther*. New York: W. W. Norton & Company, Inc., 1958.
- Fenichel, Otto, *The Psychoanalytic Theory of Neurosis*. New York: W. W. Norton & Company, Inc., 1945.
- Foote, Nelson, and Leonard Cottrell, *Identity and Interpersonal Competence*. Chicago: University of Chicago Press, 1955.
- Frenkel-Brunswik, Else, "Environmental Controls and the Impoverishment of Thought," in *Totalitarianism*, Carl J. Friedrich, ed. Cambridge, Mass.: Harvard University Press, 1954.
- Freud, Anna, *Ego and Mechanisms of Defense*. New York: International Universities Press, 1946.
- Freud, Sigmund, *A General Introduction to Psychoanalysis*. New York: Pocket Books, Inc., 1957.
- Hilgard, Ernest, "Freud's Psychodynamics," Ch. IX in *Theories of Learning*. New York: Appleton-Century-Crofts, Inc., 1956.
- Hutt, Max L., and Robert Gwyn Gibby, *The Child*. Boston: Allyn and Bacon, Inc., 1959.
- Jones, Richard, "Education in Depth." Unpublished research study, Brandeis University.
- Kluckhohn, Clyde, *Mirror for Man*. New York: McGraw-Hill Book Company, Inc., 1949.
- Kubie, Lawrence, *Neurotic Distortion of the Creative Process*. Lawrence, Kansas: University of Kansas Press, 1958.
- Mead, Margaret, and Martha Wolfenstein, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955.
- McClelland, D., A. L. Baldwin, U. Bronfenbrenner, and F. Strodbeck, *Talent and Society*. Princeton, N. J.: D. Van Nostrand Company, Inc., 1958.
- Montagu, Ashley, *On Being Human*. New York: Henry Schumann, 1951.
- Pearson, Gerald H. J., *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, Inc., 1954.
- Sarason, Seymour, Kenneth S. Davidson, Frederick K. Lighthall, Richard R. Waite, and Britton K. Ruebush, *Anxiety in Elementary School Children*. New York: John Wiley & Sons, Inc., 1960.
- Snygg, Donald, *Individual Behavior*. New York: Harper & Brothers, 1949.
- Stagner, Ross, "Homeostasis as a Unifying Concept in Personality Theory," *Psychological Review*, Vol. LVIII, No. 1 (1951), 5-17.
- Whitehead, Alfred N., *The Aims of Education*. New York: The Macmillan Company, 1929. (Also Mentor Book M41, 1954.)
- Whiting, J. W. M., and I. L. Child, *Child Training and Personality: A Cross-cultural Study*. New Haven, Conn.: Yale University Press, 1953.

effective learning by children more than those who are not.

- LIII The teacher's relationship with children is greatly influenced by his own experiences in his own family and in his early school experiences.
- LIV Teachers who work in situations where their relations with administrative and staff officers allow for teacher autonomy and initiative will be more effective in helping children learn.
- LV The maturity of the teacher as defined by the resolution of his major normal conflicts is positively correlated with the amount of friendliness children in the classroom feel and exhibit toward each other.

That teachers' personality growth is deeply involved in the education of the child and hence in the school curriculum is no new idea. Sharp, Jersild, and many others have indicated how inextricably involved the teacher always is in the entire educative process. It is on this basis that teacher participation in the process of curriculum development becomes an essential school policy.

In the chapters to follow, the research support for these statements of theory will be presented in connection with various phases of curriculum development. In Chapters 2 to 5 the support for personality development as the unifying theory for education is described in considerable detail.

The problems of doing research in curriculum, including evaluation as one form of research, are treated in Chapters 6 and 7. Ordinarily in a book of this kind not so much attention would be devoted to the subject areas. There are two considerations leading to the inclusion of more such material in this text. One is the conviction that texts in general have not emphasized where the *growing edge* is in these various fields, and the second consideration is involved in the need to point out the function of subject matter in the individual growth of children.

BIBLIOGRAPHY

- Adorno, T. W., D. J. Levinson, E. Frenkel-Brunswik, and R. N. Sanford, *The Authoritarian Personality*. New York: Harper & Brothers, 1950.
- Child, Irving L., "Socialization," in *Handbook of Social Psychology*, Gardner Lindzey, ed. Reading, Mass.: Addison-Wesley Publishing Company, Inc., 1954.

FOOTNOTES

1. Kluckhohn, Clyde, *Mirror for Man* (New York: Fawcett World Library, 1959), p. 155.
2. Kubie, Lawrence, *Neurotic Distortion of the Creative Process* (Lawrence, Kansas: University of Kansas Press, 1958), p. 20.
3. Snygg, Donald, "Learning: An Aspect of Personality Development," in *Learning Theory, Personality Theory and Clinical Research* (New York: John Wiley & Sons, Inc., 1954), p. 136.
4. Gardner, George, "Present-Day Society and the Adolescent," *American Journal of Orthopsychiatry*, XXVII, No. 3 (1957), 508-517.

2. HOW CHILDREN GROW

The measure of health is flexibility, the freedom to learn through experience; the freedom to change with changing internal and external circumstances, to be influenced by reasonable argument, admonitions, exhortation, and the appeal to emotions; the freedom to respond appropriately to the stimulus of reward and punishment; and especially the freedom to cease when sated. LAWRENCE KUBIE.¹

This chapter is concerned with the complex of factors that contribute to children's personality growth. The contributions of the various disciplines to our concepts of how children grow are made in terms of the broad concept of personality growth. For the educator this is an important and useful concept also; it helps bring order to the complex of factors he sees affecting children in the school and community.

Social adjustment is not an adequate goal for the school. The school is involved with everything the child is: with his strong desire to learn; with his difficulty in learning to bind

for their success; and consequently their success contributes to their being corrupted by leadership."³

As we study the forces of personality in all their complexity, there arise from this study additional criteria by which we evaluate the adequacy of social institutions to perform their role in serving free men. Education for maturity involves freeing the child for ego development, freeing him from punishing conscience. Erikson's insight on the meaning of the Renaissance illustrates the profound interrelationships of the culture and the individual's personality development.⁴

The Renaissance gave man a vacation from his negative conscience, thus freeing the ego to gather strength for manifold activity. The restoration of ego vanity to a position over superego righteousness, also established an ideological Utopia which found expression in Ficino's statement. Renaissance man was free to become what Freud called a god of protheses, and the question of how to dispose of this god's bad conscience came to occupy not only theology, but also psychiatry.

It cannot escape those familiar with psychoanalytic theory that the Renaissance is the ego revolution par excellence. It was a large-scale restoration of the ego's executive functions, particularly insofar as the enjoyment of the senses, the exercise of power, and the cultivation of a good conscience to the point of anthropocentric vanity were concerned, all of which was regained from the Church's systematic and terroristic exploitation of man's proclivity for a negative conscience.

Personality development is inextricably involved in learning. Where there is resolution of inner conflicts learning is free and rapid. When the child is spending energy battling his inner conflicts, his feeling of distrust, his unswerving sense of guilt or other developmental problems, he is not free to learn.

DYNAMICS OF BEHAVIOR

Some years ago Anna Freud wrote about teachers:⁵

In the practice of your profession you become acquainted with numberless visible manifestations of childish behavior, but you are unable to arrange systematically the phenomena before your eyes, nor can you trace to their original source the manifestations of the children on whom, however, you are bound to react. Perhaps even more than

tial missions—namely: to enable human nature itself to change; to enable each generation to transmit to the next whatever wisdom it has gained about living; to free the enormous untapped creative potential which is latent in varying degrees in the preconscious processes of everyone.”³

Personality growth theory helps us to see the entire range of developmental history and thus to make education serve the process of maturity by changing four elements of education: (1) the setting in which education is imparted; (2) the methods used to teach and learn; (3) the data imparted; and (4) the symbolic process, the process whereby words and wordless concepts are substituted for the objects they represent,

PERSONALITY GROWTH AND THE SCHOOL

The school culture or school society may wish to ignore the developmental problems of children, their sibling rivalry, their struggle with authority, their unconscious conflicts, their yielding to punishing conscience; but the school patterns of children arise from a nursery prehistory in which these things developed. They will invade and warp the child's approach to study of all kinds if they are not resolved at home and at school. Self-control, for example, is often control of secondary consequences of these conflicts, seldom directed at their inner sources. It should be an essential aspect of education to get all children to face and understand these conflicts. Neither traditional disciplinary education nor progressive education solved the technical problems this involved. “Disciplinary techniques alone, even when seemingly ‘successful,’ gave the child a sense that he must control something, but fail to make clear what there is inside to control or redirect.”⁴

Knowledge of the self enables man to make progress in ending cruelty, frustration, and self-punishment. Acknowledging the sadism in human beings, instead of denying it, enables us to cope with it, to control it, to end it as a bitter component of human behavior. Recognizing the competitiveness in children enables us to deal with it. Instead of exploiting competitively the hostilities and the sibling rivalries that arise from early life, the modern school brings these feelings of sibling rivalry, for example, into the arena of consciousness.

Schools can promote the awareness that can protect the individual and the society from “. . . the experts and the leaders who somehow know how to exploit our conscious without understanding the magic reasons

around the physical growth of children pointing to variations in pattern and variations in speed at different times for the same individual. Most child development information has been of this type. As it developed, it did not make enough of a contribution to many of the wide problems of curriculum making, to content selection, to the teacher's role in the psychic life of the child, although it helped with some aspects of the curriculum more than others, for example, physical education. Teachers could not explain much about children's behavior with this information. Barker and Wright said in their text, *Child Development*:⁹

The great weakness [of child development studies] lies in their lack of conceptual schemes for systematizing the data and bringing them to bear on crucial psychological problems. The data are interesting in the way a polltaker's distributions are interesting; they provide intriguing facts that sometimes are of practical importance as well. The data would appear to bring important grist to the mill of child psychology, and the investigations have done a good job of sifting it; however, they have not done much grinding.

Child development information in courses of study making, unit construction, and curriculum pattern-making appeared not really operative; it was there in parallel, so to speak, but the causal relationship usually was not visible. This, of course, has concerned all teachers for some time. Dennis¹⁰ comments that "While the downward trend in research upon child behavior is doubtless due to several causes, it seems likely that one of them has been the relative paucity of theories which could stimulate research."

Nevertheless child development studies lead to attempts to vary methods, class organization, and differential treatment of children in the same classroom. The widening acceptance of a philosophy of democratic education as urged by John Dewey also had built a deep conviction in educational leaders of the need to build an educational system based upon conceptions of the dignity of man, his potential worth, and the meaning of participation by the individual. Schools became more humane places for children to live because the focus shifted to include the child as well as the subject; we explored his needs and his interests. As these children of the last generation become teachers and citizens their potential humanness now seems to make possible a real look at the necessary integration of child personality development and the educational process.

the opportunity for undisturbed observation you lack the power to make a right classification and explanation of the material you possess, for such a classification demands very special knowledge.

Certainly since this was written for the teachers at the Children's Center in Vienna in 1934, teachers have become increasingly professional in their ability to interpret child behavior in dynamic terms. The child who is free to learn is one who has made a good resolution of the normal inner conflicts typical for his maturity level. He has learned to accept and deal consciously with his angers, his fears, his loves. He is not *compelled*, from within, to repetitious activity nor obstructed in doing by conflict with the authority of the teacher or parents. His relationship with the teacher can be one then in which he can accept guidance and help, and his relationship with peers can be one wherein he is free from a disorganizing sense of rivalry. These are the conditions under which he can achieve. How these are obtained is the subject of this and the succeeding chapter.

The educator must be the one who ultimately brings these various disciplines into focus on the child, just as the sociologist must bring them to focus on the structure of society. Erikson has pointed out this relation between the nature of man and the structure of society:⁸

Dynamic sociology would study the relationships between the nature of the ego and its needs on the one hand, and the structure of society and its necessities on the other . . . in modern societies all this seems hopelessly complicated; yet it may be our task, through the delineation of what is dynamically essential and necessary, to help simplify the modern world psychologically, even as we make it more functional and complex in technical respects.

CHILD DEVELOPMENT AND EDUCATION

What is known or intelligently hypothesized about how children grow up that can be used by teachers in helping children meet the problems they must all solve? From child development, psychology, psychoanalysis, anthropology, sociology, and the other areas of research, what can we derive that will enable us to understand and direct?

Historically we have organized our information about children in several significant ways, none of which we disregard, but all of which we must somehow seek to integrate. Much information has been organized

problem to another. This is what happens, of course, in a child's progress through the stages of personality development. The limitations of this approach lie in its inability to give the teacher a good tool to understand the meaning of children's behavior. It is susceptible to misuse by those whose sole emphasis in curriculum development is on society's demands. It seems likely that the consistent use of social demands alone in setting up curriculum experiences for children may play into demands for conformity and create more anxiety than children and adults can handle well. Failure to see that the activities of children have an inner, personal meaning, that they contribute to the resolution of the inner conflicts as well, may simply augment the difficulty they have in feeling they have achieved, that they are all right.

DYNAMIC THEORY OF GROWTH

The contributions of psychoanalytic theory and clinical practice have been extremely pervasive. Trilling says:¹¹

In many respects, of course, Freud's ideas have established themselves very firmly in our culture. It is not only that the modern practice of psychiatry is chiefly based upon them. They have had a decisive influence upon our theories of education and of child rearing. They are of prime importance to anthropology, to sociology, to literary criticism; even theology must take account of them. We may say that they have become an integral part of our modern intellectual apparatus.

Although the ideas involved in this theory are still very new, they make up the most complete theory of human behavior we have. They have the widest currency in their use in every aspect of our creative life and in their genetic approach to understanding human beings. These ideas make up the most valuable tools teachers have provided so far for understanding their children. These ideas are also in process of modification and growth.

Basic points of the theory

For a long time we have been talking about the whole child. However, the whole child we talked about before never seemed quite whole when we got around to building curriculum programs. In a way we stood outside the child's system of impulses and surveyed piece by piece the different

NEEDS STUDIES AND EDUCATION

Many of our ideas have also been collected around a basic needs approach: the need for affection, belonging, recognition, self-respect, and others. These were derived from psychoanalytic material and directed at the problems of human beings at all ages. It was also an effort to describe the inherent psychic nature of man. It was a helpful way of thinking; it encouraged a regard for the emotional concomitants of many different life situations, including learning. It promoted a mental hygiene point of view in classroom management. Originally, it was still too superficial a level, or too undynamic a level to provide a tool for analysis of conduct. It tended to be merely additive, to add one need on top of another in the same way that much child development information became additive; and it did not take into account the interaction, economy, and equilibriums of the total individual.

With the needs approach, however, the human being emerged having basic, integrating drives, an active agent in the learning process. The questions of why the child needs recognition from peers, why he needs affection, and the fate of these needs developmentally were not adequately answered, and one list of needs was probably as good as anyone else's. Valuable as it is, the needs approach did not appear to be an adequate theoretical model of the child or the human being as the educator knew him.

DEVELOPMENTAL TASK APPROACH

The developmental task approach is historically based on the idea of stages of psychosexual development suggested by Freud. Developmental tasks refer to the learnings and the adjustments which all children and adults have to accomplish as they go through the different stages of growth. They are referenced in the particular culture or society to which the child is attached more than are the psychosexual stages of personality development; but developmental tasks are necessarily rooted in both. This has been a reasonably profitable approach to curriculum planning in that the suggested tasks can be used in choosing experiences for children, and, to some extent, in interpreting behavior. The developmental task approach also presents the picture of continuous development, of children moving at different rates of speed and with varying degrees of success from one

of an individual's *psychic energy*. This is the starting point in thinking about human behavior of all kinds. The child has energy to spend. The amount and quality depends on genetic and physiologic determinants unique with the individual. The question of importance is how he invests this energy in the process of growing up, of solving the conflicts between his basic impulses and the real demands of life. Erikson¹⁴ has pointed out *nuclear conflicts* between self and growing body, and both of these and society. He has termed these *trust versus mistrust, autonomy versus shame and doubt, initiative versus guilt, industry versus inferiority, identity versus role diffusion*, and others. These conflicts demand the expenditure of psychic energy. When the home, school, or community situation is such that a satisfactory resolution of the conflict cannot be made, the child must invest a greater and greater amount of free energy on the conflict and have less for the formal learning requirements of school and home.

Psychic energy

Freud's troop analogy may be useful in trying to give the picture of the dynamic wholeness of the individual. Picture the psychic energy an individual possesses as analogous to the division of troops with which a commander starts for the front. As the commander passes one post after another on his way to the front he leaves troops to guard each post, analogously to the individual investing energy in solving the problems of the different stages of development as he grows to maturity. To the extent that these problems are not solved well—suppose that the child does not develop a sense of autonomy adequate for a basis of further growth—he must invest energy in working on the problem for a long, long time. Hence, to continue the troop analogy, as the troops approach the front more and more are detailed to fight rear guard actions, to man posts never quite secured. The troops that finally arrive at the front may not be adequate to do battle, just as the psychic energy available to the individual arriving at maturity may not be adequate to the demands of his life situation. In the first the battle is lost; in the analogy the individual may be lost, to incompetence, even to hospitalization.

Impulse diversion and expression

As another tool for thinking about behavior, the idea of *impulse diversion* and *impulse expression* is useful. As a result of chemical processes in the

characteristics he exhibited. Then it was very difficult to put him together again, that is, to interpret what a situation meant to a child. A part of this is due to our not taking into account that the child has unconscious needs that figure importantly in his life. This is true of the adult also, of course, but in the child there is less concealment for these unconscious elements. The child in the elementary school has only recently repressed some of his desires that were inimical to his getting along well with others around him. The disappearance of these memories from the possibility of conscious recall does not lessen their influence on child behavior. We have, historically at least, had some tendency to hold the child completely accountable for behaviors of which we disapproved. There is much in our culture that supports blaming. The negative conscience that some aspects of our culture can produce inhibits creativity, punishes the child for his feelings of rebellion and nonconformity. The school is much involved in this; as part of its attempt at control it can build a negative punishing conscience that makes it impossible for the child to admit and resolve his feelings. One of the ways we encourage the negative conscience is by blaming. A part of this tendency to blame is due to our not recognizing that much child behavior is of unconscious origin. The reasons a child gives for his behavior are very often not the basic reasons; these may not be available to his consciousness. Hence it is important that we know some of the unconscious significance of child behavior if we are to work with children in a positive manner.

Tools of dynamic theory

In our work with children it is essential that we acquire a number of tools that enable us to interpret behavior readily. One of these tools we use repeatedly: *What does a child's behavior mean to the child himself? What purpose does it serve for him?* Another is the idea that there is a kind of orderly flow of development that we have termed *stages of personality growth*. Actually we see these stages in a much more fluid way than the statement implies, but of this more later. A third conceptual tool refers to *basic impulses*, the drives with which the organism is equipped by its very nature as a human organism. A fourth we have called *ego development*, which is made up of the things we learn that enable us to cope with life and utilize our basic impulses in ways the culture approves and that give satisfaction to us. Another of the tools for conceptualizing behavior is that

organism, the individual has energy to expend. The form which this energy takes or the direction of its expression depends perhaps upon the particular cell assembly with which it is associated. We know that brain cells build up some kind of electrochemical charge and then discharge it along neural pathways. This is a continuous process that goes on day and night as long as the organism is alive. The direction and amount of energy discharged is affected by internal and external stimulation.

The individual gradually learns many ways of handling the impulse expression. The totality of the ways in which he comes to control, integrate, and utilize his basic impulses is given the term *ego*. This general point of view toward the individual as an energy system is helpful if the teacher is going to utilize the theory in his relationships with children in school. It seems especially important that the teacher be aware that, as a child successfully matures, a great part of these controls become unconscious and comfortably automatic.

BIOLOGY AND PERSONALITY

There is some tendency to overlook the biological basis of personality. The significance of much human behavior cannot be understood with relation to the cultural influence on it alone. Trilling brings this problem into sharp focus in the following two passages:¹²

We must, I think, recognize how open and available to the general culture the individual has become, how little protected he is by countervailing cultural forces, how unified and demanding our free culture has become. And if we do recognize this, we can get to see why we may think of Freud's emphasis on biology as being a liberating idea. It is a resistance to and a modification of the cultural omnipotence. We reflect that somewhere in the child, somewhere in the adult, there is a hard, irreducible, stubborn core of biological urgency, and biological necessity, and biological reason, which culture cannot read and which reserves the right, which sooner or later it will exercise, to judge the culture and resist and revise it. It seems to me that whenever we become aware of how entirely we are involved in our culture and how entirely controlled by it we believe ourselves to be, destined and fated and foreordained by it, there must come to us a certain sense of liberation when we remember our biological selves.

Again:

The interaction of biology and culture in the fate of man is not a matter which we have yet begun to understand. Up to now, entranced

prescribed goal. When one of these stopping places appears too attractive there is the danger that the child begins to settle down there permanently and refuses to continue the journey or to advance to a further stage of development. Long before there was any scientific proof of this conception educators in all ages acted as if they recognized these dangers. Consequently they regarded it as their task to get the child through his phases of development without his ever attaining any real satisfaction and pleasure from any one stage except the last.¹² The balance between anxiety that is necessary to keep a child progressing and the kind of anxiety that destroys him is obviously a delicate one requiring perceptive adults as teachers.

Erikson¹⁴ has developed the theory that at each stage there is a central problem or *nuclear conflict* that must be solved in a definitive manner that takes ego psychology, sociocultural factors, and development into account. He feels that the problems of each stage cannot be resolved completely at any stage, but must be taken care of in a manner that enables the individual to move on to the next developmental problem.

The relationship of Freud's developmental stages to Erikson's nuclear conflicts is shown in the list below:

DEVELOPMENT STAGES

infancy
preschool
kindergarten-primary
latency
puberty and adolescence
young adulthood
adulthood
maturity

NUCLEAR CONFLICTS

trust vs. basic mistrust
autonomy vs. shame and doubt
initiative vs. guilt
industry vs. inferiority
identity vs. role diffusion
intimacy vs. isolation
parental sense vs. stagnation
integrity vs. disgust and despair

The nature of each of these problems or *nuclear conflicts* is determined by the age of the biological equipment and the nature of society's expectancies. From clinical experience, it appears that the solution of these problems is crucial to the mental hygiene and social effectiveness of the individual.

Trust versus basic mistrust

The nuclear or basic conflict of the sensory period, the period from birth to about fifteen months, is that of trust opposed to mistrust. From this stage the child will emerge with a sense of trust of varying degrees of adequacy or of basic mistrust.

other hand, repression can be destructive and crippling to the child's desire to explore, to reach out, to build a sense of his own identity. For the educator who has the task of helping the child develop positive, flexible ways of using basic impulses, the terms *restraining*, *transforming*, and *diverting* are more meaningful.

REGRESSION

Every teacher has been confronted with children who seem to make progress and then to forget or to revert to less mature behavior. These are both instances of regression. This is like, in the troop analogy, sending troops back to secure again a post that had been won before. It is obvious that no problem of personality development is ever completely solved. Among normal children, and more frequently among those with problems, from time to time energy must be spent in again working through a problem that has not been finally resolved. There are two general implications of this for curriculum development: the first is that the teachers who become aware of this occasional regression should interpret it as a developmental process and not as an abnormality; the second is that at any stage, and latency is the one with which we are primarily concerned in the elementary school, curriculum experiences should be planned that will provide a reassurance, a reinforcement, of the child's belief in himself as a person who can do, who can make choices.

STAGES OF PERSONALITY GROWTH

Describing individual growth in terms of stages is a means of pointing to its basic orderly development. It also enables us to use a stage or problem as a focal point for the organization of the many facets of knowledge we have about personality. A child does not pass once and for all from one stage to another; he will regress to a previous stage sometimes and he will solve the problems associated with any stage only more or less satisfactorily at the time so that from time to time when circumstances arouse his anxieties he comes back to work on the reassurance of his success in these various problems. However, they are very useful as a tool in thinking about growth and behavior. "The phases of development which the child has to go through are simply stages on the way to a quite definitely

maternal relationship. Mothers, I think, create a sense of trust in their children by that kind of administration which in its qualities combines sensitive care of the baby's individual needs and a firm sense of personal trustworthiness within the trusted framework of their culture's life style. This forms the basis in the child for a sense of identity which will later combine a sense of being "all right," of being oneself, and of becoming what other people trust one will become. There are, therefore (within certain limits previously defined as the "musts" of child care), few frustrations in either this or the following stages which the growing child cannot endure if the frustration leads to the ever-renewed experience of greater sameness and stronger continuity of development, toward a final integration of individual life cycle with some meaningful wider belongingness. Parents must not only have certain ways of guiding by prohibition and permission, they must also be able to represent to the child a deep, an almost somatic conviction that there is a meaning to what they are doing. Ultimately, children become neurotic not from frustrations, but from the lack or loss of societal meaning in these frustrations.¹⁷

The role of teachers at later stages is certainly comparable to that of parents as described at this early stage. Some have expressed surprise to find that traditionally-minded teachers are as well liked as more flexible modern teachers and better liked than *laissez-faire* teachers. Both good traditional teachers and good modern teachers embody in their procedures a meaningfulness, a consistency, in the limitations that they impose. The *laissez-faire* teacher disturbs pupils with his inconsistencies and makes them feel insecure with the lack of social meaning to the frustrations that must necessarily be imposed in a classroom. The authoritarian fails to help the child learn to trust himself, his abilities, his judgment.

BIOLOGICAL AND CULTURAL IMPACT ON TRUST. The differences with which children are born greatly affect the success they have in solving the problems of growing up. Even the factor of attractiveness soon begins to operate as supportive of trust, or it begins to erode it away. Very sensitive children, those overreacting to loud noises, pain, movement, strangers, and bright light, for example, are not so likely to establish a sense of trust as those less sensitive, unless special precautions are taken to protect them from situations that seriously disturb them. Treated with regard for his sensitivity this kind of child has a chance to grow up in a richer environment, perceptually, than his more phlegmatic fellows. In school, however, as well as in infancy, his trust must be reaffirmed.

Around three months of age the child becomes conscious of objects and persons and feels himself in some degree a separate person. During this time the child's helpless state makes him depend for life in a primitive sense upon his adults. He learns to trust people about him, that they will feed and comfort him. Beginning about five months he begins to learn that he can trust his own body to do some of the things he wants, to grasp, to hold a cup, and so forth. His play activities during this period originate in the relationship to his own body. Waelder's¹⁵ description of play as a method of "assimilating piecemeal an experience which was too large to be assimilated instantly at one swoop" is true here as it is at all other periods of development. In connection with each stage of development Lili Peller¹⁶ has described the unconscious anxiety and the compensating fantasy characterizing play. The unconscious anxiety of this age, she suggests, is: "My body is no good; I'm helpless." The compensating fantasy may be: "My body is a perfect instrument for my wishes, my orders." His play with rolling things, with tools, with things that move, reassure the child that his body is good, that he can trust it. Already by the empathic kinds of communication used at this period he establishes his first identification with his mother; at first he is all passive, then he does some of the things for himself that his mother has done for him; now he is the one who receives, now the one who gives.

Trust is a victory which he cannot secure without recurrent effort in later stages, but it is one which must be won substantially the first time or it can never be won completely at all. We have children throughout the primary grades who are still reaffirming their tenuous hold on a sense of trust; we have some who so basically lack it that learning and social behavior are almost impossible. A child who has made a reasonably successful resolution of his problem of trust shows up in the primary grades as one who is rather sure of himself, is not too much disturbed by failures, uses adults but is not excessively demanding on them for love and attention.

Failure to develop the sense of trust is basically disastrous to the personality. Psychopathic personality is seen by psychiatrists as resulting when the individuals are so unloved in infancy that they have no reason to trust anyone and hence have no sense of responsibility to others.

But let it be said here that the amount of trust derived from earliest infantile experience does not seem to depend on absolute quantities of food or demonstrations of love, but rather on the quality of the

Different cultures facilitate or retard the solution of the problem of trust. Among the Alorese in Africa, for example, Kardiner points out that the pattern of child rearing involves so much neglect that children develop no consistent hope, no consistent faith in others. The world remains to the adults of the society a basically hopeless, traumatic place. Other societies institutionalize stealing, putting a premium on distrust of other individuals. Generally, most world cultures support a feeling of trust and hope. In American society, the general belief that the world is man-controlled, that the world is one's oyster, is also supportive of a sense of trust and hope.

Autonomy versus shame and doubt with ensuing fight against authority

The second of these stages or problems is that associated with the development of muscular-anal maturation. The conflict associated with the developmental stage is that of autonomy versus shame and doubt. Beginning around twelve to fifteen months and continuing about two years or more, the child is working to develop a sense of independence. The child turns from a passive to an active role. It is the decisive stage for the ratio between love and hate, cooperation and wilfulness, freedom of self-expression and its renunciation. The child must experience over and over again that he is a person permitted to make choices. He learns boundaries. If adults back him up in his desire to be independent he does well; if they fail him he feels the shame of having exposed himself foolishly. Certainly during this time he can learn to doubt as well as he can learn to rely on himself. Children exposed to shaming as a method of control during this stage may become the delinquents of a later stage.

In his play life his fantasies still are built around his mother. His basic unconscious anxiety during the stage is expressed as: "My mother can desert me, do as she pleases." The fantasy by which he endeavors to handle his anxiety may be expressed as: "I can do to you what mother did to me," or "I can come and go as I please," or "I am in motion." Evidence of this is often seen in doll play. From his play with dolls, stuffed animals, other children (not as co-players) and his mother, he learns to understand and to handle his emotions of rage and anxiety. The child speaks to himself as if he were his mother reassuring him. His own behavior calls out to himself.

BIOLOGICAL AND CULTURAL IMPACT ON AUTONOMY. The autonomy stage is particularly difficult for the children who are naturally very active and

for it are not such that the young adult is encouraged to use initiative in the same way as prior generations. There is a possibility that our feeling that our culture now provides less opportunity for initiative and independence than formerly has an important component of not knowing how to act or to exercise these traits under the changed conditions of technological and urbanized society. The socializing processes still common and stemming from an agrarian base are not helpful in the city setting. In either case we have a social problem as well as an individual psychological one.

Competence versus inferiority and inability (age 6-11)

Now he learns to develop industry, to produce, to take pleasure in work completion by steady attention and perseverance. The preceding three stages are probably the most important for personality development. However, failure at this stage to learn the skills needed for accomplishment leaves the child with a sense of inadequacy and inferiority.

During this time the basic impulses are much less active than they are later or were during the preceding stages. During this time the child takes on the orders and prohibitions of his parents and teachers; they become a part of him, he internalizes the symbols of the common culture related to parent relationships and to relations with teachers. If the parents have treated the child with severity this is reflected in the child's own attitude toward himself. If the school or home ask too much or fail to support him in his sense of ability to achieve, the remainder of his school experience can be a most unhappy one. "Children need and want real achievement. How to help them secure it, despite difference in native capacity and differences in emotional development, is one of the school's most serious challenges."²⁰ Trust, autonomy, and initiative established during the first five or six years must continue to be confirmed by school and home experiences.

In his play the child in this period—usually called *latency*—turns to organized games that offer him group attachments and mutual identifications with his playmates. His games are highly organized with definite rules. These games foster identification with equals. In a sense the team in organized games represents a group of watchful and loyal brothers, and provides security from the family entanglements of the prior period. It often becomes more important to observe the rules than to win, for as long as both observe the rules they remain equals and friends.

basic anxiety shown in his play is: "I am small, I am left out of the pleasures of the grown-ups," or, "My competitiveness with my father (mother) may cost me his (or her) love." In his fantasy he compensates; in his play he is saying: "I am big. I can do what the adults are doing." He takes over the privileges of adults and enjoys them without guilt feelings. The gains from his play are essentially preparation for adult roles and functions. He is beginning to acquire the skills society needs. Through his play and fantasy he alleviates the tensions and frustrations typical of this oedipal period. As Peller¹⁸ expresses it, in some of his play forms he is saying: "You are not my real parents. In my search for them I must go far and wide." "I don't need my parents; in fact I don't need anyone. I can get along by myself."

In the White House Conference Summary¹⁹ the central problem is expressed in this way: "The problem to be worked out is how to will without too great a sense of guilt. The fortunate outcome of the struggle is a sense of initiative. Failure to win through to that outcome leaves the personality overburdened, and possibly overrestricted, by guilt." Leeway and encouragement must be given to the child's show of enterprise and imagination and punishment kept to a minimum. During this time children need many examples of the kinds of roles adults play and a chance to try them out in play. This is an amazingly fertile period. Children's play during this period has become the prototype of our concept of happy children's play. His co-play, however, is also preparing him for co-work. His initiative into adventure and accomplishment becomes at a later stage creation and invention.

BIOLOGICAL AND CULTURAL IMPACT ON INITIATIVE. The big, active child is better able to establish himself as "one who can do." Although he may try too hard and compete against older children, he can be more easily protected against this than the inactive child can be helped with his problem. Failure at this stage on the part of congenitally inactive children may result in a passive approach to almost every other problem in the course of growing up. Slow children may come to accept themselves as weak and incompetent.

Failure to resolve this conflict in favor of initiative may result in a constricted personality, one that cannot live up to its inner capacities for imagination, feeling, or performance. Initiative is again one of the core values of American society, as autonomy is. However, the opportunities

PERSONAL IDENTITY VERSUS SENSE OF CONFUSION

The fifth stage is that of puberty and adolescence. Generally the elementary school is not organized to include those entering this period, but some schools are and some children enter the stage earlier than others.

The individual's major conflict is that of personal identity versus confusion as to who he is. The child's central problem is: "Who am I?" "What is my role in society to be?" "Am I a child or an adult?" The acceleration of physical changes and growth create the basis for renewed turmoil and indecision, after the comparative calm of latency. Ours is a difficult society for adolescence. The problem of finding or building an identity for oneself is made difficult by the indefiniteness of the adolescent's physical and social status and also by confusion in the way adolescents are handled by different parents and teachers. "The danger of this stage is role diffusion. Where this is based on a strong previous doubt as to one's sexual identity, delinquent and outright psychotic incidents are not uncommon. . . . It is primarily the inability to settle on an occupational identity and thus a self identity which disturbs young people. To keep themselves together they temporarily over-identify to the point of apparent complete loss of identity with heroes of cliques and crowds."²² It is clear enough that loss of identity during this period leaves the adolescent prey to his childhood conflicts, leading to emotional problems. Obviously this is more than a problem of a parent, a school or a teacher; it is the problem of our society wherein the transition from child to man is prolonged and arduous.

For children of minority groups and for those whose upbringing has been different in various ways, the problems of this period are even more difficult of solution. The drive to develop the personality of the majority group often begins in early adolescence and brings with it a greater sense of aloneness and loss of self for those children who are automatically excluded from majority identity and whose earlier security has not been sufficient to maintain themselves in the face of this new onslaught.

INTIMACY VERSUS ISOLATION

This stage is beyond the elementary school altogether. The major problem of late adolescence is developing *loyalties and convictions*. Some young teachers are in this stage. During this period the individual needs to come to feel himself in communion with other people. If he does not establish

The basic anxiety, unconscious, is expressed as: "I have to face authority, threatening, dangerous authority, all by myself." "I cannot go back and be a baby again." These disturbing feelings he handles in fantasy and then in play as if to say: "I am not alone, there is a group of us and we are all united," or "We observed the rules to the letter," or "I can learn and be many things." Hence, in games, "I can start all over again as many times as I want."²¹ Through his play and in his school experience the child takes care of the basic feeling of deficiency or anxiety characteristic of latency.

BIOLOGICAL AND CULTURAL IMPACT ON COMPETENCE. In our elementary schools we get children in all stages of resolution of their earlier conflicts. In the primary grades we get many not yet well into latency. The inherited differences that conditioned the solution to earlier problems continue to affect the child's work on new ones. In the effort to achieve, to acquire the tools of knowing and learning, to establish peer relations that are satisfying, differences in size, vigor, activity, sensitivity, tempo, and rhythm shape the kind of solution that the child can make to his problems of growing up. The implication for schools is that each child must be treated differently, that a solution for one child is an impossibility for another, that the curriculum must be varied to offer achievement opportunities in line with the kind of ability the different children have.

The effects of illness of any kind in latency—disease, malnutrition, low energy of psychosomatic ailments—can be particularly serious. In the earlier stages of autonomy and initiative, illness may cause children to feel guilty and regard illness as their punishment. In latency the whole effort to learn, to achieve the tools whereby his independence may be secured and peer relations sustained, may be defeated by prolonged illness.

The curriculum of the elementary school builds on the child's readiness for learning and for organized effort by helping him really achieve and by using the group intelligently as the teacher's and society's ally.

The teacher's role as a person with whom to be identified is most important during latency. Especially in our complex society, the teacher becomes a substitute for the father and mother in some respects. The child has difficulty identifying with parents whose work he does not understand because he cannot watch them. There is no way of linking the learning he is asked to do in school with the motivation which in a more natural situation arises from the child's identification with his father's or mother's work. Identification with the teacher is essential if the child is to learn.

have contact be those who have achieved this sense of integrity to an adequate degree. The White House Conference summary states eloquently the problem of integrity: "Integrity means a new and different love of one's parents, free of the wish that they should have been different, and an acceptance of the fact that one's life is one's own responsibility. It is a sense of comradeship with men and women of distant times and places and of different pursuits, who have created orders and objects and sayings conveying human dignity and love. Although aware of the relativity of all the various life styles that have given meaning to human striving, the possessor of integrity is ready to defend the dignity of his own life against all physical and economic threats. For he knows that, for him, all human dignity stands or falls with the one style of integrity of which he partakes."²³

These are the problems that pass in the lifetime of a man or a woman. In every society or culture the solutions take on the coloration of that society, but fundamentally all mankind is united in having these problems to resolve. In some societies the institutional arrangements for producing, consuming, distributing, favor the resolution of these conflicts; in others the way society does business may make it more difficult.

In some societies the core values seem to support ways of living that make it easy to grow up; in others the values by which men say they live are in conflict with other values which they live out in their daily affairs. The school is the prime institutional mediator between the culture or society and the next generation. The curriculum is the outcome of this persistent and constant process of mediation and represents the hope of the mature for the immature. It should represent in this day and age the best of scientific information in regard to the developing child, the most articulate of societal values, and even the transient hopes and fears of its time.

CURRICULUM AND PERSONALITY GROWTH

The further development of educational theory depends upon using the contributions of other fields as well, the fields of clinical psychology, sociology, and cultural anthropology in particular. Theories of how the child is socialized, how he develops a conscience, how he learns, or how he comes to accept democratic values, are based on knowledge from many fields. These theories and their specific hypotheses need trying and testing in school classrooms.

good relationships, warm and satisfying, his later relationships with people may be sterile and formal. The American culture in the past has emphasized a preoccupation with work, duty, worship. It has not been so successful as some others in encouraging a sense of intimacy. However, there appears to be a modification taking place in the culture. The willingness of youth to discuss emotional problems and their feeling of ease in discussing feelings reflect this increasing sense of intimacy among youth. Dating and pairing off customs have changed also, reflecting a greater concern with stable, heterosexual relationships. If American youth seems to be more conservative, it is also concerned with its relationships with other youth. As actual economic production uses up less and less of men's time, the problem of good human relationships assumes greater proportions.

A number of young people who have had difficulty with this problem find their way into the teaching profession. Sometimes this may represent a wish to work out the problem again. Specifically, it may be to find at school the warmth of human interaction that had been missed in their own schooling. It has its dangers in that the youth they teach need mature individuals as teachers, not those who are going to utilize pupils in the solution of their own problems. However, teachers who are helped to analyze their role in the lives of children can operate professionally with awareness of their own involvement in the children's affairs.

PARENTAL CARE VERSUS SELF-FIXATION

This problem of adulthood is peculiarly that of the teacher as well. The main aspect of this conflict is an interest in establishing and guiding the next generation, the acceptance of a kind of parental responsibility. Failure to develop this component of a healthy personality may result in conditions where the individual may treat himself as a child, be rivalrous with his children. "The essential (positive) element is the desire to nourish and nurture what has been produced. It is the ability to regard one's children as a trust of the community, rather than as extensions of one's own personality or merely as beings that one happens to live with."²³

INTEGRITY VERSUS DESPAIR

The last stage of Erikson's eight is the conflict of maturity, of ego integrity versus despair. It is important for children that the adults with whom they

Curriculum and normal problems of autonomy

Many children come to the elementary school with their conflict of autonomy versus shame and doubt not satisfactorily resolved. In our apartment bouse cities, in which we have not learned to live, children have a particularly hard time solving this problem. Their environment is sterile; they cannot cut, saw, push, change, or make free choices in the way that children in a rural environment can. Part of this is due to our ignorance of how to live in a city; part of it is perhaps the inevitable price we pay for living in apartment house cities.

The unresolved problem is illustrated by Alan who gets a piece of clay, spends hours modeling tiny miniatures, and refuses to participate in craft planned for everybody, punishing himself by abstaining. It is illustrated by Mildred who is overly neat, quiet, orderly, and never leads out, and by Terrell who never "has anything to do."

Primary grade children need their feeling of helplessness and inferiority reduced so they can be free to learn basic skills. They need to learn the rules of living together without diminishing their sense of autonomy. This is illustrated by the teacher who helped children with the problem of all talking at once by making a tape of the discussion they had after a trip to Fairyland. They heard that they could not hear themselves because so many talked at once. They helped make rules about discussions. The situation provided them with the reason for the rules and the teacher's role was not that of imposing and limiting choice but of helping them do something they saw needed.

One of the conditions related to the lack of a sense of autonomy is a classroom environment in which choices are entirely lacking or readily seen by the children as not being real choices. A sense of autonomy is also helped by subject matter that gives children knowledge of many things to do.

Kubie²⁴ illustrates what certain subject matter meant to a disturbed boy. Although this is a case involving pathology, normal children also use subject matter in ways related to the normal problems of growing up.

A little boy of seven became in essence a cartographer. Not only did he take great joy in the most painstaking and meticulous execution of maps, but he also memorized timetables of train services all over the world. He became the class spokesman in all matters that had to do with things geographical. Geography led to history, history to politics,

Curriculum and normal problems of trust

Some children who come to the elementary school are still working on the problem of trusting themselves and others. For a few it can be a problem never adequately resolved. It is illustrated by the fifth grader who said to the teacher many times during a month, "You do like me, don't you? We're friends, aren't we?" and registered surprise each time the teacher said she did. It is illustrated by Susan who can't find things, and accuses others, by Albert who constantly accuses others of cheating, and by Paul who is nauseated and vomits almost every morning before he comes to school.

One of the contributing conditions to a lack of trust is an inconsistent environment in which punishment and reward cannot be seen as meaningful, fair, or related to the child's actions. A school helps children with the problem of trust when its conduct is stable, consistent, fair, and above all when it can be seen by the child as making sense.

Much teacher-pupil planning is needed to help children with this problem in school. Through teacher-pupil planning the things that go on in a day are understood by the children; they make sense because the children have thought through the planning. The adult is also seen as reasonable, responding objectively to the requirements of the plan. Day by day, careful planning helps children not only with their problems of trust but also gives them a means of independence, of autonomy.

The use of scientific method, of problem solving, and also teaching it as content, as a way we have learned to invent and meet new conditions, helps children with the reinforcement of their solutions of the early conflicts. The logic, the rationality and the objectivity of occurrences takes away from children their fear that their environment is unpredictable or hostile.

Each content area has something to contribute to help children with this. Development of physical skills, for example, reassures the child that he can rely on his body to do what he wants and it makes him at home with his body.

The means we use to gain growth in this direction vary with the age level, of course. First graders depend on the teachers, particularly at first. By letting them work in groups of two or three they learn to rely on each other, to make room rules, to take care of room jobs. They learn that it is all right to be on their own.

"lost" youth we complain of today is partly a result of our failure to build the sense of initiative in children and to support it with societal arrangements that allow them to do worthwhile things when they are able.

Both in content and method the curriculum problem is one requiring the most diligent and rapid search if our youth are not indeed to be deprived of a feeling of adventure and achievement.

Curriculum and normal problems of competence

The latency period, which occupies nearly all the elementary school years, is the stage above all others when the child is engaged in expanding, elaborating, and refining his ego functioning. He is occupied with defining his sex role, with defining himself as an accomplisher, as a child separate from adults but related to the group. He is engaged in reaction formation and substitution for some impulses still crudely expressed, and adopting socially acceptable manifestations of these impulses.

In the early grades there are many children not yet in latency; these are concerned with the problems of initiative, autonomy, or even trust.

Above all the child of this period wants to feel competent. The hazards for him are fairly great. The very slow or retarded child has a difficult time getting a sense of competence when the situation is competitive. The very bright child drifts off into fantasy when achievement seems effortless and ends up less competent than some less endowed but persistent child. If there are rigid standards, rewards, and punishments, many children will not get a sense of competence or industry. If the curriculum is narrow, children who might have won some sense of industry from art, music, ceramics, woodshop, electronics, and so forth, are stretched on the Procrustean bed of limited curriculum experiences. The sense of competence must be preserved until the child is mature enough to accept specific kinds of limitations as just part of himself, aspects that are countered by other strengths as sources of a sense of industry.

One upper elementary grade teacher provided such a variety of activities as these: a room newspaper; a 4-H entomology club to which all class members belonged; many resource people; a community study project, including a study of why people moved into the community, homes, roads, sanitary facilities, traffic hazards, local business, recreation, neighborhood government, newspapers, and organizations; a year-long class log;

politics to the law. There, unfortunately, he tumbled into an illness which had many serious schizophrenic features. It was not irremediable illness, however, and in the course of time and as a result of long searching treatment, the meaning of his early interest came to light. He had lost his mother in a foreign land when he was four. Then shortly before he was seven he was taken on a trip, and during his absence his nurse, on a visit to her home in Scotland, died there. In each instance death had been described to him as "going away," and the youngster's heart and soul had become entirely absorbed in an unconscious fantasy of finding again these two whom he had loved and lost.

Curriculum and normal problems of initiative

Most children entering the elementary school are still working on the problems of initiative. The problem is "how to experience the borderlines of excessive will without too great a sense of uninhibited guilt."²³ As his conscience has developed he begins to feel guilt even for evil thoughts that are not actually carried out. The child must be encouraged at this time to compete for goals, and he must be assured that these goals can be reached. He needs to feel that someday he will be able to do things as well as, if not better than, those adults he admires.

In fantasy he plays many roles, trying out the role as he thinks adults play them. The study of community helpers, of what fathers do, is peculiarly appropriate in the lower primary grades in helping children get some conception of what they can be. Often the experiences children are provided under the guise of studying the community workers are not helpful to them in solving the problem. Children should be able to identify with the activities selected for role playing. The problem of "Who can I be?" requires many opportunities for learning about the things adults do. A fifth grade teacher reinforcing this sense of initiative and preparing for the problem of identity has the children role-play almost every story in the social studies, putting in the ideas between the lines. They are thus actually thinking and acting for adults. Another teacher working on the same problem had children construct a small-scale model of a town of long ago and one of the town of the future. The town of the future is far ahead of anything that exists today. Hence children get the idea that by working hard they can surpass anything adults of the present day are doing.

This problem of initiative is an important part of American ideals. The

BIBLIOGRAPHY

THE STAGES OF PERSONALITY DEVELOPMENT

1. *The problem of trust versus basic mistrust*

Erikson, Erik H., *Childhood and Society*. New York: W. W. Norton & Company, Inc., 1950, Chapter 7.

Freud, Anna, *Psychoanalysis for Teachers and Parents*. New York: Emerson Books, Inc., 1954, pp. 11-39.

Pearson, Gerald H. J., and O. S. English, *Emotional Problems of Living*. New York: W. W. Norton & Company, Inc., 1945, pp. 15-42.

A Healthy Personality for Every Child, A digest of the Fact Finding Report to the Midcentury White House Conference on Children and Youth. Raleigh, N.C.: Health Publications Institute, Inc., 1951, pp. 8-11, 30-31.

2. *The problem of autonomy versus shame and doubt*

Erikson, Erik H., *Childhood and Society*, Chapter 7.

Freud, Anna, *Psychoanalysis for Teachers and Parents*, pp. 11-63.

Pearson, Gerald H. J., and O. S. English, *Emotional Problems of Living*, pp. 43-70.

A Healthy Personality for Every Child, pp. 11-14, 32.

3. *The problem of initiative versus guilt*

Erikson, Erik H., *Childhood and Society*, Chapter 7.

Freud, Anna, *Psychoanalysis for Teachers and Parents*, pp. 11-63.

Pearson, Gerald, and O. S. English, *Emotional Problems of Living*, pp. 71-132.

A Healthy Personality for Every Child, pp. 14-15, 33.

4. *The problem of industry versus inferiority*

Fostering Mental Health in our Schools. Washington, D.C.: Association for Supervision and Curriculum Development, N.E.A., 1950, Chapters 6 and 7.

Erikson, Erik H., *Childhood and Society*, Chapter 7.

Freud, Anna, *Psychoanalysis for Teachers and Parents*, pp. 64-91.

Havighurst, Robert, *Human Development and Education*. New York: Longmans, Green & Company, Inc., 1953.

Levy, David, *Studies in Sibling Rivalry*, American Orthopsychiatric Association Monographs # 2. New York: The Association, 1937.

Pearson, Gerald, and O. S. English, *Emotional Problems of Living*, Chapters 7, 8, 9.

Rapaport, David, "The Autonomy of the Ego," in Robert Knight and Cyrus Friedman, *Psychoanalytic Psychiatry and Psychology*. New York: International Universities Press, 1954, pp. 248-58.

A Healthy Personality for Every Child, pp. 16-19.

puppet plays written, directed, and produced by pupils; new skills in woodshop; pottery; experimenting with glazing; excursions. Within this broad range of activities were opportunities for success, growth, and feelings of competence for any child in the class.

In both content and method we have only begun to find what children of latency age need in the way of curriculum experiences.

Curriculum and normal problems of personal identity

This is a problem of early adolescence, but it begins far back in the elementary school. It begins with parents' and teachers' gradually helping children get an idea of what they can do well, and helping them to build a picture of themselves, their characteristics, their growth, as the years pass. When Joe was in the nursery school, he worked well with his hands, with clay, with wood, and particularly in taking apart machines and occasionally putting them together. Repeatedly the school has offered him a chance to excel in such activities; repeatedly someone, teacher or parent, has said, "Joe, you really understand how machines are put together," or "Joe, you work so well with your hands." Gradually adults have helped Joe get a picture of himself as a person who knows machines, who can take them apart, who is interested in them, who does things well with his hands, who can create something beautiful in pottery. This is part of the eventual concept of self that Joe brings into adolescence. Within he has no great struggle with identity; he knows who he is and what he is and what he is not.

Throughout the elementary school teachers and other adults need to help children build a concept of themselves. This is probably the best kind of vocational guidance any child can be given. Fear that we may be making decisions for the child are unfounded; with his sense of identity intact he will turn to do whatever he wants. In the case of Joe, a child who started with an interest in mechanical things ended up as a physician. Another child with a similar background of encouragement ended up in the social welfare field.

Content-wise the curriculum of the early adolescent must include much opportunity for self-exploration and for role identification. The directions for the curriculum worker are fairly clear; the detailed working out of a curriculum that will help children with their personality growth problems at this stage is only begun.

REPRESSION, RESTRAINT, TRANSFORMATION, DIVERSION, AND EDUCATION

- Freud, Anna, *Psychoanalysis for Teachers and Parents*, pp. 66-68, 72.
 Freud, Sigmund, *Collected Papers*, London: Hogarth Press, Vol. IV, pp. 84-97.
 Peller, Lili E., "The School's Role in Promoting Sublimation," in *Psychoanalytic Study of the Child*, Vol. XI, pp. 437-49.
 Plank, Emma, "Memories of Early Childhood in Autobiographies," in *Psychoanalytic Study of the Child*, Vol. VIII, pp. 381-93.

SOCIO-ECONOMIC EFFECTS ON PERSONALITY

- Bossard, James, "Parents' Occupations and Child Development," in Bossard, *Sociology of Child Development*, pp. 268-89; also "Child and the Class Structure," pp. 317-44, New York: Harper and Brothers, 1954.
 Davis, Allison, *Social Class Influences Upon Learning*. Cambridge, Mass.: Harvard University Press, 1948.
 Maccoby, Eleanor, Patricia K. Gibbs, et al. "Methods of Child Rearing in Two Social Classes," in Martin and Stendler, *Readings in Personality Development*, New York: Harcourt, Brace and Company, 1954.
A Healthy Personality for Every Child, pp. 43-48.

PERSONALITY DEVELOPMENT AND LEARNING

- Dennis, Wayne, et al., *Current Trends in Psychological Theory*. Pittsburgh: University of Pittsburgh Press, 1951, 213 pp.
 Klein, E., "Psychoanalytic Aspects of School Problems," in *Psychoanalytic Study of the Child*, Vol. III, IV, 1949.
 Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, 1954, pp. 23-166.
 Plank, Emma, "Emotional Components in Arithmetic Learning as Seen through Autobiographies," in *Psychoanalytic Study of the Child*, Vol. IX, 1954, pp. 274-93.

ANTHROPOLOGY AND PERSONALITY

- Gillin, John (ed.), *For a Science of Social Man; Convergence in anthropology, psychology, and sociology*. New York: The Macmillan Company, 1954.
 Mead, Margaret, *School in American Culture*. Cambridge, Mass.: Harvard University Press, 1951.
 Montagu, Ashley, *On Being Human*. New York: Henry Schumann, 1951.
 Rosenstiel, A., "Educational Anthropology: new approach to cultural analysis," *Harvard Ed. Rev.*, 24, #1, pp. 28-36, 1954.
 Spindler, George, *Education and Anthropology*. Stanford, Calif.: Stanford University Press, 1955.

5. *The problem of identity versus confusion*

- Corey, Stephen M., "The Developmental Tasks of Youth," in Hollis Caswell, *The American High School*. New York: Harper and Bros., 1946, pp. 70-99.
- Erikson, Erik H., "On the Sense of Inner Identity," in Knight and Friedman, *Psychoanalytic Psychiatry and Psychology*, pp. 351-64.
- Havighurst, Robert, *Human Development and Education*. New York: Longmans, Green & Co., Inc., 1953.
- A Healthy Personality for Every Child*, pp. 19-21.

CHILD DEVELOPMENT

- Barker, R. G., and H. F. Wright, *Child Development*. New York: McGraw-Hill Book Company, Inc., 1949.
- Biber, Barbara, Lois B. Murphy, Louise P. Woodcock, and Irma Black, *Life and Ways of the Seven-to-Eight Year Old*. New York: Basic Books, 1952, 658 pp.
- Blair, A. W., and William H. Burton, *Growth and Development of the Pre-adolescent*. New York: Appleton-Century-Crofts, Inc., 1951, 221 pp.
- Millard, Cecil, *Child Growth and Development in the Elementary School Years*. Boston: D. C. Heath and Company, 1951, 511 pp.
- Sheehy, Emma Dickson, *The Fives and Sixes Go to School*. New York: Henry Holt and Company, Inc., 1954, 372 pp.

IDENTIFICATION WITH ADULTS AND PEERS

- Cronbach, Lee, *Educational Psychology*, New York: Harcourt, Brace and Company, Inc., 1954, pp. 310-54.
- Cunningham, Ruth, *Understanding Group Behavior of Boys and Girls*. New York Bureau of Publications, Teachers' College, Columbia Univ., 1951.
- Freud, Anna, *Psychoanalysis for Teachers and Parents*, Chapter 3.
- Howe, Louisa P., "Some Sociological Aspects of Identification," in *Psychoanalysis and the Social Sciences*, Vol. IV, pp. 61-79.
- Lane, Howard, and Mary Beauchamp, *Human Relations in Teaching*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955, pp. 247-319.
- Pearson, Gerald, and O. S. English, *Emotional Problems of Living*, pp. 270-307.
- Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, 1954, pp. 131-50.

THE MEANING OF EGO

- Freud, Anna, *Ego and the Mechanisms of Defence*. London: Hogarth Press, 1957, especially Chapters 3, 4, 11, and 12.
- Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, 1954, pp. 169-197, 235-322.
- Rapaport, David, "Autonomy of the Ego," in Robert Knight and Cyrus Friedman, eds., *Psychoanalytic Psychiatry and Psychology*, pp. 248-58.

19. *Ibid.*, p. 15.
20. *Ibid.*, p. 18.
21. Peller, Lili E., "Libidinal Phases," pp. 190-197.
22. Erikson, Erik H., *Childhood and Society*, p. 228.
23. *A Healthy Personality for Every Child*, p. 24.
24. Kubie, Lawrence S., *Neurotic Distortion of the Creative Process*, pp. 108-109.
25. *A Healthy Personality for Every Child*, p. 15.

THE ROLE OF THE TEACHER

Lane, Howard and Mary Beauchamp, *Human Relations in Teaching*, especially "The Role of the Adults in the Child's Life," Chapter 13.

FOOTNOTES

1. Kubie, Lawrence S., *Neurotic Distortion of the Creative Process* (Lawrence, Kansas: University of Kansas Press, 1958), p. 20.
2. Kubie, Lawrence S., "The Psychiatrist Considers Curriculum Development," *Teachers' College Record*, L (1949), 246.
3. Kubie, Lawrence S., *Neurotic Distortion of the Creative Process*, p. 113.
4. *Ibid.*, p. 121.
5. Erikson, Erik H., *Young Man Luther* (New York: W. W. Norton & Company, Inc., 1958), p. 142.
6. *Ibid.*, p. 193.
7. Freud, Anna, *Psychoanalysis for Teachers and Parents* (New York: Emerson Books, Inc., 1954), p. 13.
8. Erikson, Erik H., "On the Sense of Inner Identity," in *Psychoanalytic Psychiatry and Psychology*, Robert P. Knight and Cyrus R. Friedman, eds. (New York: International Universities Press, Inc., 1954), p. 356.
9. Barker, Roger G., and Herbert F. Wright, *Child Development* (New York: McGraw-Hill Book Company, Inc., 1949), pp. 131-43.
10. Dennis, Wayne, *Current Trends in Psychological Theory* (Pittsburgh: University of Pittsburgh Press, 1951), p. 3.
11. Trilling, Lionel, *Freud and the Crisis of Our Culture* (Boston: Beacon Press, 1955), pp. 11-12.
12. *Ibid.*, pp. 53, 55.
13. Freud, Anna, *Psychoanalysis for Teachers*, pp. 60, 61.
14. Erikson, Erik H., *Childhood and Society* (New York: W. W. Norton & Company, Inc., 1950), Chapter 7.
15. Waelder, Robert, "The Psychoanalytic Theory of Play," *Psychoanalytic Quarterly*, 2 (1953), 218.
16. Peller, Lili E., "Libidinal Phases, Ego Development and Play," in *Psychoanalytic Study of the Child* (New York: International Universities Press, Inc., 1954), pp. 178-198.
17. Erikson, Erik H., *Childhood and Society*, pp. 220-221.
18. *A Healthy Personality for Every Child* (Raleigh, N. C.: Health Publications, 1951), p. 14.

3. DYNAMICS OF CHILDREN'S LEARNING

FOR MANY GENERATIONS teachers have known that academic learning cannot be separated from the total development of children. As they dealt intuitively with the problems of children, they were aware this was also the road to increased learning of the factual things that the school and society held to be important. Teachers seek eagerly for conflict-free and motivated areas in children, knowing that learning proceeds best there; for example, in a special art ability, a sharp curiosity about airplane motors, or an interest in snakes. Much of the research on learning by psychologists neglected this complex aspect of learning and concentrated on a purely mechanical notion of cognitive learning. Snygg¹ has pointed this out, arguing that psychologists thought of learning as a process and somehow separate from people. He writes, "It is too bad that psychologists became interested in learning before this [the psychologists' awareness of the total organism] happened. By setting up our definition of the learning process too soon we have cut the learning psychologist off from the major problem of

dom and permissiveness. Some authorities believed that basic impulses, drives, or instincts should be expressed as directly as possible and learning would flow, naturally, from the expected and ensuing "conflictless" state. If the development of the child were a progressive unfolding of the innate "good" that lay within him, perhaps an educational process that avoided frustration would be indicated. However, modern biological notions make no assumptions as to innate goodness or badness but rather imply that the infant and the child is what he obviously is—untutored, unsocialized, and unlearned. Indeed, observations of those children who have missed early educative contacts with teaching, loving, and frustrating adults, such as the "wolf" children and children in sterile institutions, suggest that the loss in love and education suffered may never be completely recovered. There is a large quantity of *caring* involved in *limiting*, *controlling*, and *disciplining* a child because his own weak and immature ego is without such devices and mechanisms to direct energy from within in terms of the expectations from within and from without. Progressive education was, however, clearly understandable as an enthusiastic albeit mistaken expression of the newer notions of the reasons for inefficient and neurotic functioning and their prevention. The object of adult society's educative efforts is for the most part the ego of the child, and present understandings of the ways that ego growth is promoted clearly include in an articulated way the idea of frustration to be experienced. The sum total of psychological research, clinical experience, and psychoanalytic theory suggest that learning proceeds best in a climate of *mild* frustration and *mild* dissatisfaction layered upon a generalized feeling tone of well-being. Clinical experience with the overindulged child, who is essentially the spoiled child, and the child who has been allowed to fixate upon a particular stage of development, indicates that the ego deficiency results as clearly from an excess of unadulterated care as from an absence of care. Such deficiencies frequently appear as inability to wait, to bind tension, and a generalized pleasure-oriented ego. Of course, it needs to be noted parenthetically that the parent of an overindulged child is most frequently one who is expressing his hostility toward the child unconsciously by failing to support, encourage, and enhance the child's growth efforts and thus indicating in a backhand fashion his essential assumption that the child is without strength and competence. However, the school's role, because it stands, as it should, appropriately removed from the center of the child and the family's affective life, is essentially to continue the process of asking the child to

further back into larger and more controlling patterns in the child's biopsychological make-up. We have become less concerned with the symptom of not-reading, for example, and more with the basic orientations the child has toward learning as these arise from early patterns of living at home. Because the symptom of not-learning shows up at school—learning is the school's business—we hastened to prescribe new methods and new lures; we also assumed that the school had somehow failed. This it may have done; but it is increasingly evident that we dealt too much with the apparent symptoms and not enough with what the child had become in his general relations to people and learning. His problem was there before he came to school, usually. Not-learning in school is simply the symptom of his disturbance, which appears only under the new pressures of school expectancy. The same phenomenon occurs with referral of children to clinics; it is at the entering school age that a large number of children are referred for therapy. Schools did not create the problem; it is revealed there because of new social relations and demands.

It is sometimes difficult to see what is really behind behavior. The mother who "smothers" the child, is reluctant to let him go to school, and is closely overprotective, for example, is seldom seen by schools as really involved in rejecting the child. It is this fundamental character of the dynamic approach that is presented in the following pages. When we know what the behavior really means we can usually help the child. As long as we deal with symptoms only we shall defeat ourselves. It is stating the obvious to point out that the most expressed need of elementary teachers is for increased understanding of behavior and ways of helping children.

The dynamic approach is the most complex explanation of human behavior developed. In this it parallels the immense complexity of the educative process. Nearly all the research now being carried on in personality and in clinical understanding of human behavior is designed to test facets of dynamic theory. It must be done piece by piece. In this it also parallels education where the public demand for simple experimentation and simple answers has nettled the professional teacher particularly during this past decade.

LEARNING AND OVERPERMISSIVENESS

In the early years of the progressive education movement and of the child-centered school idea, learning was believed directly associated with free-

more complex ego forms that will *restrain, divert, and transform* their impulses, and contemporaneously and successively to use the resulting free energy to develop even more complex ego forms that will include the skills and understandings required to deal with themselves and our very complex society. Helping the child see himself and experience himself as a conscious learner is one of the really significant accomplishments of the elementary school. It is the major achievement of latency for the child himself.

COMPLEX LEARNING

Learning goes on at all levels, conscious, preconscious, and unconscious, simultaneously, as far as we know. Yet what the individual learns from an experience is unique to him. It is determined by its meaning to him on both a cognitive and emotional level. The child "approaches" with an affective tone as well as with logical tools. Yet even these logical tools carry affective connotations and the younger the child the greater affective load symbols may carry. All teachers are familiar with the overreactiveness of primary school children to symbols that connote bathroom functions for instance. "The symbols by which we think are multivalent tools, always representing many things simultaneously, some conscious, some preconscious, and some unconscious. In logical thinking, the conscious and preconscious symbolic processes represent external reality without disguises. What we call logic, therefore, is in essence a coding of relationships which are inherent among such internal and external data as are accessible to our direct perceptual processes. One might almost say that although logic resides in the mind, its roots are in the relations among external facts themselves. It is a neglected consequence of this principle, that it is literally impossible to be 'illogical' about accessible data except when one has an unconscious axe to grind."² The fact of "unconscious axes to grind" is a great distorter and consumer of energy, and when considered as a sum total pathology within a society or a nation it constitutes a continuous danger to that society or contiguous societies. The example of Germany can be brought to mind as illustrative of this. It follows then that when children learn the things listed above they do so in complicated patterns. Their learning is multiple in these senses: many cognitive and emotional learnings occur simultaneously, and these learnings occur at the three levels of consciousness. The school takes this into account by grouping its objectives around integrating

surrender his infantile behavior patterns by *transforming, restraining, and diverting* his childish and primitive impulses, and increasingly to use the resulting energy to develop new ego skills whether it is adding and subtracting or understanding himself and waiting his turn.

PROTECTIVE ENVIRONMENT

In a larger sense the school can be thought of as a protective environment that societies have organized for the young where the excesses of childish energy can be channeled, where mistakes can be made without their consequences being permanently detrimental to the child's hope of eventual competence and adulthood, and where the skills and techniques of the society can be mastered. Erikson has called parents the protectors of the child's play peace. This might be translated to the school situation by thinking of the school as the protector of the child's early group and work experiences to the end that its graduates are workers who are neither compelled nor inhibited, and that their availability of energy is hopefully at the maximum.

Because dynamic psychology generally developed its theory and structure within the context of the pathological, partly because it is easier to see and understand the exaggerated pathological form and partly because psychoanalysis developed within the framework of medical practice, the development of concepts and formulations that would be useful for the educator and his concern with the more normal learning process has been a long time coming. However, in recent years increased interest is noted in both fields, psychoanalysis and education, in developing theoretical bridges. Psychoanalysis, likewise, has come to speculate that all normal behavior may not be merely a milder form of pathological behavior. Normality may actually be a matter of markedly different forms. As a matter of fact, it is beginning to become more certain that new concepts are going to be needed and perhaps in quantity to explain man's more salubrious, adaptive, coping methods of handling himself and his life. Development in these directions should directly provide schools with more material for increasing sophistication, understanding, and effectiveness in promoting the learning of children.

It seems clear now, though, that the school's role, when considered from the present point of view, is to provide a milieu encouraging children increasingly to give up primitive modes of behavior by developing

abandon these will not be able to sustain a teacher who feels that the affective tone involving a sense of well-being is the key to learning.

Affective tone

A good affective tone arises from several factors. The warmth of the teacher in his relations with elementary age children is central. It is important that the teacher recognize that he is a source of emotional supplies, by his giving or withholding of approval and love. "Self-esteem is raised if an unpleasant stimulus is gotten rid of. Every token of love from a more powerful adult has the effect of a supply of milk for the child because it raises his self-esteem."⁴ A second aspect of securing an affective tone that helps the child's development is the curriculum; if there is interesting, worthwhile work to be done, work that can absorb the child's energy and work that has a positive relationship to the problems of the stages of development in which he may still be involved, such work helps direct the child to the "outside" and lessens conflict between parents and teachers. It is important that the work help the child really test and increasingly master his environment, that it involve effort, mild frustration, and increasing self-denial.

Using adults

If there is freedom for mistakes without disorganizing punishment or guilt, the classroom can be seen by the child as a safe place to try things, to change, to fail, and try again. The processes of incorporation and identification are important concepts from psychoanalysis that now can be utilized in education. As an infant, the child incorporated, through his senses of feeling, hearing, and seeing, the behavior, the qualities of his parents. In a way this incorporation is like eating, his method of taking into the body things he needs. Later this taking-in, in the sense of learning, seems founded upon the more primitive taking-in of eating. That these processes are related seems verified by the fact that some children with learning difficulties have a history of earlier eating problems.

One of the principal motivations of young children rests on their incorporation of, and identification with, adults. The adult is seen by the child as omnipotent and omniscient. Taking on the qualities of the adult means to children that they can hope to become powerful like the adult. They hope to lessen their dreads and anxieties if they can incorporate the

experiences and by providing the learner such *autonomy* in learning that he can make his own those things that have particular meaning to him.

The extent to which a child's learning allows him unfettered and undistorted access to the "external data" of the universe should be roughly equivalent to the extent that his total educative experience reflects an unfettered and essentially scientific view of the child and the universe.

"The great cultural processes of human society, including art and literature, science, education in general, the humanities, and religion, have three essential missions—namely: to enable human nature itself to change; to enable each generation to transmit to the next whatever wisdom it has gained about living; to free the enormous untapped creative potential which is latent in varying degrees in the preconscious processes of everyone."³

Kubie has concerned himself with the neurotic distortions of creativity and of learning. He points out that the schools sometimes fall into the position of producing and supporting compulsive work habits. Essentially, this is work carried beyond the point necessary for learning and the means, that is, the work and the orderliness of the work, becomes the end. The repetitiveness of a work compulsion is anathema to new solutions involved in creativity and robs society and the individual of this added enrichment. Educators have deplored busywork, but crowded schools and high pupil-teacher ratios are the producers of busywork.

WHY CHILDREN LEARN

The most important condition of school learning is the affective tone of the classroom. The child's relationships in the classroom, with the teacher and his peers, determine the extent, the breadth and depth to which he can reach out and use the classroom experiences, his classmates, the teacher, and the factual learning to help in his own development. Research supports the notion that complex rational learning occurs best in an atmosphere that allows and encourages a flexible approach and a mildly pleasant sense of well being. Setting the effective tone of the classroom and the school is by no means the responsibility of the teacher alone. The means of creating an effective tone that promotes learning needs to be the subject of agreement among all school personnel. A principal who has need for punitive measures for control and who is made insecure by a higher administrative decision to

may come to understand that it is dangerous to wonder. If parents, and presumably teachers, are preoccupied and distant in their relations with their children, these children cannot make a complete use of parents and teachers to explore and satisfy themselves about others, or of other aspects of their environment. Their interest patterns may become circumscribed. Only a generous environment can furnish the time and tools for full learning. In the socialization process the taboos of the culture need to be handled with immense care. The child can accept limiting custom if the adult can divest the process of senseless repression.

Although some early learning is based upon the process of incorporation and identification, children at the end of the elementary school are separating themselves from the adult, as indeed they always are during childhood and youth. The things they learned from the adults, and peers, are increasingly becoming integrated into the unique personality of each child; what they incorporated is eventually digested and is now theirs alone. The child particularly gives up some of his identification with his parents and looks about for other omniscient figures—the teacher, for example. It is the teacher's role during the child's adolescence to gradually reduce his own authority, just as the parent must do, so that the child may be free to be himself, to develop his own identity, which is a new entity.

Preconscious process and learning

The notion of the preconscious has implications for learning that have not been widely explored. It may serve a useful purpose here to describe briefly the levels of mental functioning. Broadly, the unconscious refers to the early, generally unavailable to consciousness, rigid, and unrealistic material from experience. Many of the experiences people have are pushed out of consciousness because they are unpleasant, they produce feelings of guilt, or they are inconsistent with the person as he now thinks of himself. These experiences, that is the memory of them, become unconscious and cannot be recalled to mind except perhaps in therapy. Nevertheless these repressed memories continue to influence and distort behavior. One of the most common evidences of this is seen in patterns of forgetting. It is also seen in our behavior when we fail to "see" things because they are connected with unconscious recollections. Conscious processes are also rigid in a sense, in that they impose the conditions of logic and chronology upon thought. In the preconscious level of functioning thought is rapid, intuitive, condensed,

Another implication involves the individual differences of the learner's preconscious and this is probably of greater vastness than the more familiar individual differences of the learner's consciousness. Because of this silent partner of the teacher, considerable individual latitude is probably needed in the presentation and assimilation of a lesson to allow individual preconscious functioning to occur. Here again the importance of autonomy for the learner is apparent. It is also important that the school's physical setup recognize the need for periods of separation or isolation when the individual can absorb and organize the meaning of his experiences. The cell idea of classroom construction described in Chapter 11 is based upon this consideration as well as upon the meaning of such separation for the development of a more inner-directed personality.

Remembering

Children remember things that have meaning to them because the particular and the specific thus become a part of a larger meaning generalization or understanding and in this way they are not discrete accumulated items. Generally, all learning depends upon the existence of need in children. They remember new facts better if they are related to bodily things.⁶ Remembering is easier if the learning goes on through several sensory avenues—sight, hearing, motor. We also remember more if the connections between things can be established simply by the patterning of experiences in more complex, integrated fashion.^{4a} Pointing out connections also facilitates recall. Affective influences on remembering are now well known; we forget unpleasant things; our recollections are distorted by conflicts just as our perceptions are also distorted by conflicts.

Repetition

The major purpose of repetition is secure economy of mental processes. Repetition enables us to eliminate intervening steps to complex thinking and acting. It helps to set up patterns including sensory, kinaesthetic, emotional components.⁷ These patterns may then be "triggered as a unit by the symbol which represents the goal."⁷ For some teachers there are two deductions (correlatives) from this theory: (1) Repetition should be carried on only with material that is understood; *repetition is not a learning procedure*, it is a means of making what is already understood rapidly available

and allegorical, utilizing analogy as the basis for new combinations of originally dissimilar material. Some learning, perhaps all learning, is first of a preconscious nature, becoming conscious only later. Conscious thought may then organize it and subject it to the test of reality. Some learning seems never to enter consciousness. The characteristic mannerisms we pick up from others are an example. An example of how much we actually perceive without being able to consciously reproduce it comes from research in hypnosis. If an individual is brought into an unfamiliar room for several minutes and then removed from it and asked to list all the objects he saw, he can usually put down fifteen to thirty. If he is then put under hypnosis, without again entering the room, he can increase the list to around two hundred.⁸

Although the implications of the theory of preconscious functioning are particularly relevant to creative processes, it is generally important for all kinds of learning. We have recognized this in such phrases as "time to digest it," "mull it over," "need a period of gestation," and "sleep on it." Experiments have indicated that students tested immediately after instruction may do poorly in comparison with those who have allowed an interim period of a week or so.

Distrust of learning ability

Many school practices seem to prevent the full use of preconscious processes. Forcing children to "give back" some kinds of experiences immediately after instruction seems to hinder learning. Teachers may also teach children to *distrust* their preconscious thinking by penalizing mistakes severely, by seeming to exercise a continuing critical attitude toward performance, or by evaluating too soon.

Rich environment

One of the implications of this kind of learning involves the value of a rich environment from which children can appropriate learning. A bare classroom deprives children of the chance to absorb learning from their surroundings. Art, music, models, exhibits, the beauty of the room and the school site, maps, and the textures of objects can be symbolized in preconscious processes and constitute part of the stuff of understanding and creation.

unconscious debilitating resistance) are not noted, nor should they be expected to be, by their wise evaluation and selection of what is important to be learned and what is not, and part of the time children will have to be urged and required to learn things that seem, at the moment, unimportant to them. If a child's dignity and selfhood is essentially respected he will be able, on good faith, to accept the adult's longer term wisdom and choice in the matter and will be able, for short periods of time, to make the adult's motivation his for all the varying reasons and in all the varying ways mentioned above. The number of repetitions that any one learner will need in order to declare that he has learned the new material seems to this writer to be in a large part a matter for the child's determination or at least it should be so in more situations as the learner becomes older. To be able to know when one has learned something, to be able to test oneself against one's evaluation of his feeling of himself in regard to external facts can provide power, verve, and control to oneself as a learner as opposed to a hapless, obsessive, compulsive ruminating over isolated and poorly understood fragments of the materials and of oneself.

An interesting technique in the field of mathematics has come to the writer's attention. It utilizes arrangements between teacher and learner that appear essentially to promote the autonomy of the learner.⁸ The teacher's wisdom selects information to be learned, promotes the learner's understanding, piques his curiosity, gives him problems that involve the repetition of the principle he has discovered, but the child repeats only until he has satisfied himself that he has "learned" the idea. It is clear that this arrangement puts considerable responsibility on the child, but when the traditional learning situation is distilled to its essence, whether a child learns or not still rests upon whether the child chooses to learn or not. Learning, if it is to occur, involves an active, tempered aggressiveness toward the material, toward the purveyor of the facts, toward others who are also learners and there is no way to bring about this state of internal affairs if a child declines to participate or to participate meaningfully. One can certainly "make" children cease and desist but a determined child can easily avoid taking a positive acquiring step forward.

Another point for concern in regard to repetition is that the compulsive children find the repetition an end itself, and in a society that rewards conformity and stereotyped thinking to repeat without understanding is one of the less anxious ways one can live.

and in the control of preconscious processes. (2) Repetition should be carried only to the point absolutely necessary to secure economy of thinking. The last suggestion calls for, at best, an approximation of the optimal number of repetitions but drill beyond this point is probably not only wasteful of time but also *injurious* to future learning.

Those who have worked with children unmotivated to learn know the incredible number of times that a fact can be repeated by a placid, complying child without its "taking," but when the child becomes motivated a single repetition can sometimes suffice for permanent retention. The academic learning theorist's laws of primacy, recency, and effect seem inadequate to handle such a good learning when it occurs. It would appear, then, that even drill must be motivated. Another common sense fact that is part of most of our experience involves final examination cramming. The number of facts that have been lost to utilization by the general population by cramming for finals would probably measurably raise the level of political debate in the next elections if these facts could now somehow be made available to those who have lost them. A "crammed" fact is obviously a fact that has meaning and relevance for the teacher but very little of either for the student who mechanically reproduces it at the appointed hour without having had to take responsibility for it, assume ownership of it, or integrate it into his own set of intellectual assumptions. The enormous waste of learning, the conservation of facts and understandings, are important problems for scientific investigation and, in time for our schools. Interesting questions arise in this regard as to how the memory trace is stored, if it is, and how it is reproduced. Is it a change in the brain structure or a change in a biochemical process, and how can the processes of hypnotized states, which allow multitudinous memories to be clearly recalled, be made available for the waking state? Be that as it may, it appears that repetition of some sort is necessary for the retention and better use and reproduction of the memory. Clearly motivated repetition that has meaning to the learner and to his already acquired external knowledge and his knowledge of the way he learns has a better chance of being retained and used than a sheer, mechanical doing over and over of the learning. For example, this is the difference between the "crammed fact" and the integrated, understood fact.

Now children and adults (but of course, adults' learning is already impaired by our system that promotes mechanical repetition and a secret

b. If the school can provide a rich environment from which the children can take what they need in their growth, the ability of children to develop new insights will increase.

c. If the school can organize the children's day so that some time is allowed for thinking, for free-associating about problems, for a relaxation in the need for continuous production, children will be able to learn approaches to a creative nature.

d. If the school can provide some isolation for the individual so that he can separate himself part of the time from the impinging of the social demands of peer contact, the child will learn better to rely upon himself for creative procedures.

e. If the school will encourage groups to work in a creative, free way (brainstorming, for example) on problems that groups need to solve as groups, children will learn the use of others for creative solutions.

f. If the school grants autonomy to children in their learning as far as their maturity will allow, children will do more insightful learning.

g. If the school can set limits, expect impulse restraint and aid in the transformation and diversion of basic impulses, children will have more energy to spend on creative processes.

Acquiring self-knowledge

How do children acquire self-knowledge? What are the negative and positive contributions of schools to children's self-knowledge? The importance of self-knowledge as a requisite of maturity and as a prerequisite of freedom to learn has been stressed in Chapter II. Children come to school normally with a number of vital conflicts affecting their relations with others and their feelings about themselves. The school may either aid children in resolving them or may, as Kubie¹⁰ suggests, do many things that aggravate these problems to the point where the individual's career as a learner and creator is harmed.

Typical of the conflicts with which the child comes to school are his feeling about adult authority. He carries his feeling about authority derived from his relations with parents into the classroom in the form of relations with the adult authority, the teacher. Similarly he carries his feelings of sibling rivalry toward his own siblings and toward his pseudo-siblings, his peers, into the school situation. The compulsive dawdler and the compulsive rusher may both find that their problems are not lessened but accentuated by school practices. The "good child" whose goodness is

Insight, problem-solving, and creativity

All of these—insight, problem solving, and creativity—are similar mental processes and all involve preconscious functioning. The common element is that of making new connections between concepts hitherto not seen as related by the individual. These processes are essentially cognitive and, as with all mental activity, involve emotional components. They also involve all levels of functioning: unconscious, preconscious, and conscious. Schools promote insight, and therefore problem solving and other creation, by providing much experience, a wealth of perceptual experience, that can become the material for the swift, analogic thinking of the preconscious. Teachers can work with children so that they dare to think freely and use their experience in fluid ways. The creative process has been variously described by many writers. Broadly, the occurrence of insight in creative people seems generally described in three phases: (1) In the period when information is gathered about the problem in an intense fashion, the individual exposes himself to all possible sources of information in a kind of "problem-generated neurosis." This is a period of absorption, of logical testing, and yet one where free imagination allows the absorption of all kinds of ideas, undistorted by the special conflicts of the individual. (2) The period when the individual has time to contemplate, to *free-associate*, to allow full rein to the preconscious processes without the interference of the rigid logic of the conscious mind or the distorting rigidities of the unconscious, is the period when new connections and condensations can occur below the level of conscious thought. The individual may in fact do other things, in a sense trying to provide freedom from conscious interference with the creative process. Out of this the "aha" experience may arise, the new combination, the sudden insight, the excitement of discovery and the quick freeing of energy. (3) The last period is that in which the individual reality-tests his insight, subjecting it to logical criticism and structuring it so that it has use for him.

If the individual's thinking is bound by unresolved conflicts he may be unable to free himself for creation, or, if he can, his product may be repetitious, indicating the unconscious sources of its distortion.

The school's role in insight, problem-solving and creativity may be summarized in these ways:

a. If the school can help diminish the inner conflicts of children, their ability and energy to learn and create will increase.

and art and music centers of the school provides a setting wherein groups may work together, where the individual feels the rub of his own strong purposes against the equally strong purposes of others. A great part of his ability to work and play with others will depend upon the knowledge of self described above.

The school program that encourages growth in social relations is described in Chapter 5. The general principles of learning social relationships include:

a. If the total school situation is planned to provide group work, sharing, and decision, children's growth in social relationships will be increased.

b. If the situations that grow out of this kind of "living together" are used to help children understand their feelings about others' behavior, accept the differences of others that fall within the broad range of democratic behavior, and understand the needs of others in the group and respond to them appropriately, children will be helped to grow in social relationships.

c. If the school will plan for and capitalize on the broad range of social relationships situations presented by school and community living and by social studies and literature, children will learn to become more effective in working and playing with others.

d. If the school helps children develop independence from the group, resistance of group pressure, and strong feelings of personal identity, the effectiveness of the individual in his social relationships will be increased.

These four general learning principles are elaborated more fully as a school program in Chapter 5.

Learning values

The values children learn are the result of the socialization process at home and later at school and in the community. What these values are depends mostly upon the effect of social influences on instinctual needs. Different biological constitutions contain many possibilities. "It is experience, that is, the cultural conditions, that transforms potentialities into realities, that shapes the real mental structure of man by forcing his instinctual demands into certain directions, by favoring some of them and blocking others, and even turning parts of them against the rest."¹¹

The crisis of our age is a crisis of value. "There is little hope of creating new social entities which shall be more stable than the old until

based upon submissiveness may find this mechanism reinforced by the school's pleasure over a conforming student.

These are some of the areas of inner life into which children can be helped to look during the elementary school years. Instead of exploiting rivalry as a means of motivation, the school can civilize and socialize rivalry by helping children maintain their feeling of self-worth when defeated and their sense of proportion in a guiltless pleasure when successful. In the inevitable and useful rivalry situations of a classroom the school is afforded a marvelous opportunity for prorating ego growth and ego coping mechanisms, which help children take account, as the teachers and our society do, of individual differences; that is, nobody wins all the time and nobody loses all the time. The child's insight into his rivalrous feelings, for instance, is productive of some resolution and behavioral change if (1) the process of learning is a gradual one, and (2) the insight is not merely an intellectual one but involves feeling as well. Intellectual insight alone may merely serve the individual's defenses and serve to keep his basic conflict untouched. Yet it is important for the child to come to know his capabilities in relationship to others. Progressive education, in becoming aware of the destructive effects of school's exploiting the crude rivalries between children, moved to the other extreme where it neurotically denied and asked children to deny that competition existed. This merely asked children to defend themselves against knowledge of their own envious feelings and avoided, hopefully, the conflict that was necessarily involved in the resolution. It is to be contended, however, that the school only creates a neurotic structure for the group and, in turn, for the individual by either *denying* rivalries or *exploiting* them. Tolerance for others' successful abilities is an eventual and adult ego achievement which rests upon a deep acceptance of oneself as a biological entity with certain assets and limitations that are more or less evident and reassuring to oneself in various situations.

The child's relationship to his peers and the inevitable mirroring opportunity that the group provides him is only one source of self-knowledge for the child. Certainly a like opportunity in his relationship to authority, adults, men and women, is possible in the teacher-pupil contacts.

Growth in social relations

Helping children to learn to live and work with other people is one of the functions of the modern school. The classroom, playgrounds, laboratories,

mission element has been removed; the other part of the school's double role is the provision of cognitive material with which children can verbalize their ideas of democratic values.

Intelligence

The schools are concerned with intelligence as a measure of the ability of children to benefit from the experiences provided in the curriculum. There are three things of note about measuring intelligence that have become important for schools: (1) intelligence is by no means a simple concept; Guilford¹⁵ has suggested that there are at least fifty intellectual factors already known; (2) intelligence is by no means stable; and (3) although the intelligence of an individual, however complex the dimensions in which it is measured, probably reflects the inherited biological structure and functioning of the individual, the important consideration for schools is that the development and utilization of intelligence depends upon general personality development. Fromm¹⁶ has indicated the ways in which current intelligence tests measure dynamic personality functioning. In a very broad sense intelligence can be viewed by the curriculum maker as the child's approach to life. Certainly we all know many children who do not learn well, not because they are unintelligent, but because their capacity to free energy for reaching out and exploring is limited. This in turn is due to fearful approaches to the environment, fear of the anger within, fear of "not measuring up," and many other personality development failures.

EMOTIONAL BASES OF FAILURE TO LEARN

Despite adequate ability and excellent instructional methods some children do not learn or do not learn at the rate that could be expected. Some children may have special subject disabilities. The importance of this to both schools and families has increased with population pressures, new restrictions on school entrance, and the rapidly increasing utilization of the school in our society as a screening and selecting institution for entry into a large range of vocations.

The physical reasons for poor learning usually need to be checked out before other exploration is done. Unfortunately, physical bases are inextricably interwoven with the psychological effects they have on the child's relationships and hence on his ability to learn. The occurrence of

new, wider, and more complex relationships can be built upon values that are not only generally recognized and deeply felt, but that also have some scientific warrant."¹² The sciences involved in understanding human behavior have the task of developing scientific bases for values. It is basic to the theory of curriculum development presented in this text that the values governing men's activities can ultimately be based upon a study of personality development, the nature of man. Northrop has pointed out that, "The norms for ethical conduct are to be discovered from the ascertainable knowledge of man's nature, just as the norms for building a bridge are to be derived from physics."¹³ The range of behavior to which different cultures assign value is very great. Nevertheless, these valued behaviors exhibit even at this stage in the development of mankind, a rough correlation with "what is good for man," a checking back against biological predeterminants.

Within cultures like that of the United States, there are competing and inconsistent value systems. Which values the child picks up out of his family and community experience depend first upon early child-parent relationships. "Values are most likely expressions of the structure of the personality as it is integrated in a given social patterning."¹³ If the experiences of children make for a rigid, submissive approach to relationships, they will tend to adopt values, unconsciously and consciously, that are of a conventional and external character with condemnation of those who do not conform to rigid patterns of behavior. The child from an authoritarian home considers the ideal occupation for men chiefly from the angle of prestige and external success in the social hierarchy. Children from equalitarian homes see desirable occupations as anything that is exciting or interesting, or for which one is trained; they see a bad occupation as one that they dislike.¹⁴ This point can be elaborated extensively, but it suffices here to illustrate that children take on values that fit the basic orientation they are given in their fundamental relationships at home.

The American school is committed to an equalitarian, democratic approach with emphasis on the flexibility of the individual as an important part of his development. The teaching of values in school will depend upon relationships between children and between teachers and children that allow for learning democratic values. "Values cannot . . . be preached at people if the makings for the reception are not there."¹⁴ The school has a double role: it must provide relationships that allow children to have experience with authority, for example, from which the dominance-sub-

School relationships and failure to learn

The school difficulties arising from these settings involve a number of specific behaviors. Boys with ego restriction often respond with "I don't know." Those with acute anxiety try wild guesses. Generally, they would not reveal hostility to teachers nor admit it to themselves. A boy who was severely struck by a teacher for holding his head on one side refused to express anger in any way.

In general, for these boys, the price of being liked was to give in to someone else. Their failures brought them dependent satisfactions. These boys selected the school as their overt failure area because the school situation came to represent the conflicts at home.

Staver¹⁶ has summarized the relationship between children's learning difficulties and the emotional problems of the mother in this way: "Work with the mothers of disturbed children who show a general learning failure reveals that these mothers have focused on their retarded children their own fears of loss and abandonment associated with intense oral dependent needs. These mothers use intellectual inhibition themselves as a defense in certain critical situations and appear to encourage the use of intellectual inhibition as a generalized defense by these children whom they identify as parts of themselves. The child's stupidity and consequent helplessness provide the mother with vicarious gratifications of her needs, as well as protecting her from the dreaded separation from the child."

If the child's relationships with his parents, and particularly the mother, with the latency age child, are not good, the child may not be able to identify with his teacher and thus utilize this identification as a means to fulfill the wish to know the same things the teacher knows or like learning the things that the teacher seems to enjoy himself. Competitive envy among siblings when badly handled by the parents may make it impossible for a child to do better than another child because this might serve as an exposé of his underlying hostility. On the other hand, the same constellation of feelings toward the sibling may make it necessary for him to achieve, even overachieve, as an expression of his need to be loved more than his siblings.

The neurotic child whose attention is engrossed first with one stream of instinctual strivings and at the next moment with another, and whose energy is expended in controlling these by massive attempts at repression or symptom formation or excessive indulgence in fantasy may be quite unable to focus his attention on any of his school work. At adolescence this

emotionally disturbed children in mentally retarded classes is still frequent enough to point up the difficulty of making distinctions. Difference in intelligence may be due to brain structure inherited or to brain damage occurring before, during, or after birth. The slow or defective child is likely to find an environment less helpful to his development. Parents may have problems around feeling real affection for the child, and the child's identification with parents is slower. Parents may try to force learning, not only on slow children, but on others as well. This may create secondary emotional conflicts which prevent learning.

Chronic fatigue and illness may inhibit learning by reducing oxygen supply of the cortex, reducing heart efficiency and hence circulation. Specific illnesses may result in impaired vision or hearing. Some illnesses may result in cortical or subcortical lesions. The physical reasons for not learning make up only a small percentage, but the analysis of learning difficulties should begin with these.

Family relationships and failure to learn

Generally, learning difficulties begin in disturbed home relationships. Teachers may both create and reinforce learning difficulties, but initially the problems of the home become the learning problems of children. In an intensive study¹⁷ of seven boys with I.Q.'s 100-120 with learning difficulties, the family patterns found included these conditions: (1) family emphasis on being good; (2) parents who deny their own needs and who deny aggressiveness and competitiveness; (3) fathers who see themselves as failures; (4) mothers who often fail to protect the children, but deny the hostility involved; (5) parents who set up a sibling to serve as an aggressor and competitor to another child, or who set themselves up in this role; (6) a general denial by parents of aggression and sexuality, and also denial of disturbing reality events—the birth of a mongoloid in the family, for example.

The boys in this study tended to cover up hostile reactions to mothers and teachers for fear of loss of love. This fear of loss of love characterized all the boys and is responsible for their continuing dependency. The oedipal situation is also handled this way by the boys, resulting in a kind of partial masochistic surrender to avoid loss of love.

Within the family culture there are also factors that encourage learning or make it seem an alien activity. These cultural factors are fully discussed in Chapter 4, *How Curriculum Varies with the Neighborhood*.

focusing of attention on the renewed sexual strivings for a time characteristically results in a common and usually temporary slump in academic interest and achievement.

For some children growing up may unconsciously have dangerous connotations and fulfillments. The fear of his own hatred may cause the child to refuse to learn, that is, to delay growing up if he feels he would act upon this hatred if he were large enough. For a girl, growing up may mean, at the unconscious level, marrying her father. Not learning is chosen as a way to delay growing up when this could happen. Some pseudo stupidity originates in the wish to be thought innocent (ignorant) in sex. One boy, for example, developed stupidity in order to deny what he saw of sex around him in the home of his mother, who was a semiprostitute. Feelings of stupidity and accompanying learning difficulties may develop from identification with the stupid parent of the same sex.

Roles and learning

Difficulty in learning may be involved in feminine and masculine identifications. If the mother is the intellectual of the family, the boy may, under certain conditions, reject learning as being feminine. If the father is the intellectual, learning may be seen by the children as a masculine attribute, and the girl may reject it, or she may use it as a conscious substitute for the unconscious wish to be a male. At around the third grade level we notice the phenomenon described by Pearson, "If an individual unconsciously considers not knowing as a sign of unmanliness and weakness, his ability to learn may be interfered with. Such an individual feels it is necessary for him to know before he has really learned, lest he be considered unmanly. Therefore he does not learn but supplies his lack of knowledge through the use of omnipotence, by trick information and the like."¹⁹

That learning difficulties are sometimes associated with oral difficulties in early life—loss of appetite, gluttony, upper respiratory infections, disturbed dentition, or delayed speech seems substantiated by clinical experience.²⁰ These difficulties may lead to refusal to ingest learning, particularly apparent in refusal to learn to read. Children who forget what they learn may do so because of a kind of inhibition of oral aggression arising from the early food or other oral experiences. At the unconscious level the child has to inhibit the desire to take in and to learn because of his fantasy of devouring and being devoured. He fears his need for devour-

CURRICULUM AND LEARNING

The problem of school learning is complex. Both the inner self and outer reality are necessarily the concern of the school. The school expects and sets up its curriculum program to accomplish the following learning: (1) a knowledge of self, including abetting the resolution of inner conflicts that block and distort learning and creativity; (2) a value system that defines the child's relationships with others within this particular society, involving basic knowledge and concern for human personality; (3) a knowledge of basic functions of social living carried on by this society and others past and present; ability to participate fully and creatively in the culture by means of quantitative, scientific, artistic, and communicative knowledge and skills; (4) productive, tension-free social relationships, involving freedom from distorting hostility and dependency; (5) the skills and tools to accomplish the above and provide the child with a vehicle for productivity within his milieu.

BIBLIOGRAPHY

- Bowman, Paul H., "Personality and Scholastic Underachievement," *Freeing the Capacity to Learn*. Washington, D.C.: Association for Supervision and Curriculum Development, N.E.A., 1960, pp. 40-55.
- Dahlberg, Charles, Florence Roswell, and Jeanne Chall, "Psychotherapeutic Principles as Applied to Remedial Reading," *Elem. School Journal*, 53 (1952), 211-17.
- Eisenberg, Leon, "Emotional Determinants of Mental Deficiency," *Archives of Neurology and Psychiatry*, 53 (July, 1958), pp. 114-21.
- Fabian, Abraham, "Reading Disability: An Index of Pathology," *American Journal of Orthopsychiatry*, 24 (April, 1955), pp. 319-29.
- Frandsen, Arden, *How Children Learn*. New York: McGraw-Hill Book Company, Inc., 1957.
- Fromm, Erika, et al, "Children's Intelligence Tests as a Measure of Dynamic Personality Functioning," *American Journal of Orthopsychiatry*, 26 (January, 1957), pp. 134-43.
- Gardner, George, "Present-Day Society and the Adolescent," *American Journal of Orthopsychiatry*, 27 (July, 1957), pp. 508-17.
- Gates, Arthur, "The Role of Personality Maladjustment in Reading," *American Journal of Orthopsychiatry*, 27 (July, 1957), pp. 508-17.
- Gladwin, Thomas, "The Need: Better Ways of Teaching Children to Think," in *Freeing the Capacity to Learn*. Washington, D.C.: Association for Supervision and Curriculum Development, N.E.A., 1960, pp. 23-39.

Difficulty with mathematics may also be tied to masculine and feminine identifications. In our culture occupations involving the greatest use of mathematics have generally been those in which men worked. For this and more personal reasons mathematics is seen in the culture as a man's field. Women who succeed in it seem, from some studies, to be those who learn it from men and are also involved in the oedipal struggle so that learning mathematics is a part of the family triangle. Girls may do poorly in mathematics because of their identification with a mother who also rejects mathematics as masculine. Boys may sometimes reject mathematics taught by a woman, as they may reject other kinds of learning for the same reason.

In all the different areas, special factors may be involved that facilitate or retard learning.

THE WHOLENESS OF LEARNING

In this chapter the relationship of learning to personality development has been described in various ways. In subsequent chapters there will be further illustration of the application of these ideas to learning in many areas of the curriculum. The central thought around which the material presented revolves is that learning is a result of the child's attempt to solve the problems, to release the tensions, or to restore balance as these are involved in the complicated business of personality growth and development within a society.

MACHINES AND LEARNING

The possibilities of teaching machines are interesting to educators. It is apparent that complicated kinds of learning involving affective components as well as cognitive require the conditions described in Chapters 2 and 3. However, given freedom from conflict and adequate aspiration levels, simple *conditioning* types of learning might well be facilitated by machine. The theory of preconscious functioning suggests that rapid exposure to logically arranged material may result in rapid acquisition of certain kinds of information with which machines could be programmed. Among these may be such skills as spelling and fundamental processes in mathematics.

- and Denial in Learning Difficulties," *American Journal of Orthopsychiatry*, Vol. XXVIII, No. 1 (January, 1958), pp. 96-111.
- , "School Phobia," *American Journal of Orthopsychiatry*, Vol. XXVII, No. 2 (April, 1957), pp. 286-309.
- Strachey, J., "Some Unconscious Factors in Reading," *International Journal of Psychoanalysis*, XI, 332 ff.
- Strang, Ruth, Constance McCullough, and Arthur E. Traxler, *Problems in the Improvement of Reading*. New York: McGraw-Hill Book Company, Inc., 1955.
- Sylvester, Emmy, and M. S. Kunst, "Psychodynamic Aspects of Reading Problems," *American Journal of Orthopsychiatry*, XIII (1943), 69 ff.

FOOTNOTES

1. Snygg, Donald, "Learning: An Aspect of Personality Development," *Learning Theory, Personality Theory and Clinical Research* (New York: John Wiley & Sons, Inc., 1954), pp. 129-37.
2. Kubie, Lawrence, in Richard Jones, *Education in Depth* (unpublished research study, Brandeis University, n.d.), p. 14.
3. Kubie, Lawrence, *Neurotic Distortion of the Creative Process* (Lawrence, Kansas: University of Kansas Press, 1958), p. 113.
4. Pearson, Gerald H. J., *Psychoanalysis and the Education of the Child* (New York: W. W. Norton & Company, Inc., 1954), p. 102.
5. Kubie, Lawrence, *Neurotic Distortion of the Creative Process*, pp. 35-36.
6. ———, "Bodily Symbolization and the Development of Language," *Psychoanalytic Quarterly*, III (1934), 430-44.
7. ———, *Neurotic Distortion of the Creative Process*, p. 33.
8. Trivett, John V., "The Coloured Sticks," *The New Scientist*, Dec. 10, 1959, pp. 1183-85.
9. Martin, Alexander R., "The Dynamics of Insight," *American Journal of Psychoanalysis*, XII (1952), 27.
10. Kubie, "Education for Preconscious Freedom and its Relation to Creativity and to the Process of Maturation," *Neurotic Distortion of the Creative Process*, Chapter 3.
11. Fenichel, Otto, *The Psychoanalytic Theory of Neurosis* (New York: W. W. Norton & Company, Inc., 1945), p. 588.
12. Kluckhohn, Clyde, *Mirror for Man* (Greenwich, Conn.: Fawcett Publications, 1959), pp. 217-18.

- Glover, Edward, "Unconscious Functions of Education," *International Journal of Psychoanalysis*, 18 (1937).
- Hilgard, Ernest R., *Theories of Learning*. New York: Appleton-Century-Crofts, Inc., 1956.
- Johnson, A., and M. Griffin, "Some Applications of Psychoanalytic Insights to the Socialization of Children," *American Journal of Orthopsychiatry*, Vol. XXVII, No. 3 (July, 1957), 462-74.
- Klineberg, Otto, "Cultural Factors in Personality Adjustment," *American Journal of Orthopsychiatry*, Vol. XXIII, No. 3 (July, 1952), 465-71.
- Kubie, Lawrence, *Neurotic Distortion of the Creative Process*. Lawrence, Kansas: University of Kansas Press, 1958.
- Lee, Dorothy, "Developing the Drive to Learn and the Questioning Mind," *Freeing the Capacity to Learn*. Washington, D.C.: Association for Supervision and Curriculum Development, N.E.A., 1960, pp. 10-22.
- Liss, Edward, "Learning—Its Sadistic and Masochistic Manifestations," *American Journal of Orthopsychiatry*, Vol. X, No. 1 (January, 1940), 123-28.
- , "Contemporary Concepts of Learning: Round Table, 1954," *American Journal of Orthopsychiatry*, Vol. XXIII, No. 4 (October, 1953), pp. 767-88.
- Paulsen, A. "Personality Development in the Middle Years of Childhood. A Ten-Year Longitudinal Study of Thirty Public School Children," *American Journal of Orthopsychiatry*, Vol. XXIV, No. 2 (April, 1954), pp. 336-50.
- Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, Inc., 1954, pp. 23-166.
- Peller, Lili, "Libidinal Phases, Ego Development, and Play," *Psychoanalytic Study of the Child*, IX (1954), 178-98.
- Plank, Emma, "Emotional Components of Arithmetic Learning as Seen through Autobiographies," *Psychoanalytic Study of the Child*, IX (1954), 274-93.
- Robinson, J. F., and L. Vitale, "Children with Circumscribed Interest Patterns," *American Journal of Orthopsychiatry*, Vol. XXIV, No. 3 (October, 1954), 755 ff.
- Seagoe, May V., *Teacher's Guide to the Learning Process*. Dubuque, Iowa: Wm. C. Brown Company, Inc., 1956.
- Snygg, Donald, "Learning: An Aspect of Personality Development," *Learning Theory, Personality Theory and Clinical Research*. New York: John Wiley & Sons, Inc., 1954, pp. 129-37.
- Snygg, Donald, and Arthur W. Combs, *Individual Behavior*. New York: Harper & Brothers, 1959.
- Sperry, B., David Ulrich, and Nancy Staver, "The Relation of Motility to Boys' Learning Problems," *American Journal of Orthopsychiatry*, Vol. XXVIII, No. 3 (July, 1958), pp. 640-45.
- Sperry, Bessie, Nancy Staver, Beatrice Reiner, and David Ulrich, "Renunciation

13. Kardiner, Abraham, "Social and Cultural Implications of Psychoanalysis," in Sidney Hook, ed. *Psychoanalysis, Scientific Method and Philosophy* (New York: New York University Press, 1959), p. 97.
14. Frenkel-Brunswick, Else, "Patterns of Social and Cognitive Outlook in Children and Parents," *American Journal of Orthopsychiatry*, Vol. XXI, No. 3 (1951), pp. 543-58.
15. Guilford, J. P., "Three Faces of Intellect," *American Psychologist*, Vol. XIV, No. 8 (1959), pp. 469-79.
16. Fromm, Erika, *et al.*, "Children's Intelligence Tests as a Measure of Dynamic Personality Functioning," *American Journal of Orthopsychiatry*, Vol. XVIII, No. 1 (1957), pp. 134-43.
17. Sperry, B., David Ulrich, and Nancy Staver, "The Relation of Motility to Boys' Learning Problems," *American Journal of Orthopsychiatry*, Vol. XXVIII, No. 3 (July, 1958), pp. 640-45.
18. Staver, Nancy, "The Child's Learning Difficulty as Related to the Emotional Problem of the Mother," *American Journal of Orthopsychiatry*, Vol. XXIII, No. 1 (January, 1953), p. 140.
19. Pearson, Gerald, *Psychoanalysis and the Education of the Child* (New York: W. W. Norton & Company, Inc., 1954), p. 66.
20. Mann, Harold, Bessie Sperry, and Nancy Staver, "Destructive Fantasies in Certain Learning Difficulties," *American Journal of Orthopsychiatry*, Vol. XXII, No. 2 (April, 1952), p. 103.
21. Fabian, Abraham, "Reading Disability: An Index of Pathology," *American Journal of Orthopsychiatry*, Vol. XXV, No. 2 (April, 1955), pp. 319-29.
22. Piaget, Jean, *The Child's Concept of Number* (London: Routledge and Kegan Paul, 1952).
23. Hunnicutt, C. W. and William J. Iverson, *Research in the Three R's* (New York: Harper & Brothers, 1958), p. 250-51.
24. Levy, David, *Maternal Overprotection* (New York: Columbia University Press, 1943).
25. Plank, Emma, "Emotional Components of Arithmetic Learning as Seen Through Autobiographies," *Psychoanalytic Study of the Child*, IX (1954), 274-93.

school is a professional right and responsibility. If it is not exercised, the children's needs are poorly met and the professionalization of teaching is further delayed.

In this chapter some of the background for working with the problems is developed. Ways of studying the neighborhood for curriculum purposes are suggested.

Around the sixteen questions listed below, some of the important curriculum questions arising from variations in social backgrounds are described. The questions are followed by suggestions for study in the individual school.

1. How do neighborhoods educate?
2. How do families educate? What is the school's role?
3. How do peer groups educate?
4. How do schools differ from neighborhood to neighborhood?
5. Are there common goals for all schools?
6. Do we have a social class structure with significant impact on personality development?
7. Are there optimal social conditions for personality development?
8. How does the teacher's socioeconomic level affect curriculum?
9. Do children recognize social class differences?
10. What is the teacher's role with children from different backgrounds?
11. How can teachers work with parents from different socioeconomic backgrounds?
12. Can normative tests be used fairly to measure the ability of students from different economic levels?
13. How can the school culture be changed?
14. How should the curriculum in elementary school subjects vary from school to school?
15. How should school organization vary from one neighborhood to another?
16. How should the curriculum vary according to the natural and human resources of the community and their utilization?

HOW NEIGHBORHOODS EDUCATE

Neighborhoods differ from each other in many crucially important respects. They educate the children who grow up in them. They teach

4. HOW CURRICULUM VARIES WITH THE NEIGHBORHOOD

Individuality is not originally given but is created under the influences of associated life. JOHN DEWEY.

One of the hardest professional questions curriculum workers, especially teachers, face today is how to work effectively with children from a great range of backgrounds. How to understand and to develop individuality in the midst of group pressures, mass education techniques, and desires for successful conformity is a problem of great professional difficulty. The variety of backgrounds brings with it a range of values, motivations, and psychological defenses meriting the most painstaking study.

The importance of autonomy for the staff of the individual school in curriculum is great. Many of the most significant curriculum problems must of necessity be worked out by the teachers and administrators of each school in sensitive response to the needs of the children in that particular neighborhood. The right to build curriculum in response to the growth problems of children in each

children; try hard to come out on top in games and sports; (4) that he make his own friends among children his own age. Early development of these abilities in certain families was highly correlated with high achievement by the children.

Families teach different attitudes toward authority; some teach children to respect it, some to fear, and others to defy it. These attitudes permeate the child's relationships with important people in his life probably for the rest of his life. In the same way the children pick up a family aspiration level, more important in some ways for future achievement than almost any other personality facet.

Children learn in their families the roles that people play. They carry these role conceptions to school and into other social relationships. The curriculum worker's interest in this is twofold. First, we want to help children cope successfully with their immediate living situation. Second, we want to build skills and attitudes in the area of interpersonal relations that will help them build a better concept of family. Children can be helped in school to understand and accept the many differences between families' ways of living, to handle their relationships with their siblings and with their parents more successfully, to get a better understanding of how the neighbors live, and the way they look at the behavior of others. Schools help children understand better the roles that different family members play. They help them handle the conflicts that family living involves, and living in general.

As a supplementing agency to the family the school is interested in knowing such information as this:

1. What kinds of things do the children do with their parents?
2. What kinds of things does the boy do with his father, if there is a father?
3. What kinds of things does the girl do with her mother, if there is a mother?
4. Is the child learning to play an appropriate sex role? Family role?
5. Has the family learned a pattern of urban, rural or suburban living that is appropriate?
6. Is the family teaching children common societal values?
7. Is there a chance for children to learn from parents through identification?
8. What are the personality development problems on which both the family and the child need help?

different values and activities, different self-concepts, and different ways of carrying out roles as brothers, sisters, parents, lovers, workers, learners, and many other relationships. They educate children in different concepts of family and of the family's extension, society itself. Some of the things learned are harmful to the growth of children and others are useful.

In three neighborhoods studied, to illustrate, children at the recreation centers were asked about the police. The attitude of the children toward the police was positive in one neighborhood; policemen were conceived of as being helpful and friendly. In another neighborhood, in an adjoining city, boys on the playgrounds showed fear and antagonism toward police, and in response to the question, "If you saw two people fighting in your neighborhood would you call the police?" they exclaimed that they would not, that a policeman had broken up a quarrel between a husband and wife, had kicked the man down the stairs, broken his leg, and thrown him in jail. In a third neighborhood the children said the police were afraid to come into the area except in groups of a half dozen or more. These are attitudes not only toward police; they are attitudes toward much of society's attempt to set up and maintain controls and safeguards. The attitudes that children learn toward essential controls from their neighborhood culture proliferate and become attitudes toward society generally, and particularly toward other people who, because of their own functions, must expect conformity to commonly agreed upon regulations.

INFLUENCE OF FAMILY AND ROLE OF THE SCHOOL

Each family has its own culture, in some respects unique. The socialization process, which begins in the home, is continued in the neighborhood and in the school. The normal problems of growing up, of personality development, are also made easier or more difficult by the family culture, or the elements in it.

Families vary in their demands on children, for example, in the amount of independence they give or expect at different ages. McClelland¹ found substantial differences in the ages at which these four abilities were expected by different groups of families: (1) that the child know his way around the city so that he can play where he wants without getting lost; (2) that he be willing to try new things on his own without depending on his mother for help; (3) that he do well in competition with other

equals. He learns the social skills and attitudes that he must have to work and play with others.

The peer group membership changes fairly rapidly and the individual can try out in several different groups and move from one friend to another. In this way the learning situation can be changed, and it is less emotionally involved than the family situation can be. The peer group, for a time at least, may enable children to learn about other ways of behaving characteristic of different socioeconomic levels, and different kinds of families—authoritarian, democratic, or warmly responsive. Peer groups formed by children as they get older tend increasingly to follow class lines, the ultimate of this occurring in adulthood in urban settings.

The school needs to study the peer groups as they are formed in the classroom and within the school community. The school's role and the informal role of the peer group are similar; they are both socializing agencies. Where the culture of the peer group is in active conflict with the school's purposes and with adult values, the school may need to help build other groups, to support groups that are constructive. The school also can help the individual find his way into the peer group and to benefit from it.

COMMON GOALS FOR ALL SCHOOLS

What of the school in this social complex? The child brings his family to school. He brings his relationship with his siblings, actual and peer, to school. He comes whole to school; his problems, his character, are all involved in his learning. It is a matrix from which no one can single out the three R's alone as worthy of instructional effort. But as children and neighborhoods differ, how should their schools differ from each other? It has been pointed out that the socialization process that began, and continues, in the family is carried on by the school. Is this really true? If the school is very much different from the home, or if the people in the school who work with children do not know the home experiences of the children, it often occurs that children cannot make use of the school. The values that are held by one are so different from the other that children often cannot make the transition and may reject one or the other. A great many children *can* accept and use the school, particularly those whose values coincide generally with those of the teachers. But the problem that this poses is, considering these differences in circumstances of children, *how should the curriculum of one school differ from that of another?* The

In a recent survey,² the families of two different racial groups but of the same socioeconomic level revealed a number of significant differences affecting children's learning. Families in the "A" group had few family type activities involving adults and children; their meal times were seldom organized family meetings. Each child came in as it suited him, ate something from the table or refrigerator and went on to other activities. Families in the "B" group had many family type activities, ate meals in family style. Both groups expressed a desire for their children to receive as much education as possible. However, families in "B" group implemented this by the purchase of books, discussions about school work, consistent praise for good work. "A" group families were not able to implement their desires in specific ways. Discipline in "A" group families tended to be alternately lax and punitive. In "B" group families discipline tended to be consistent, nonpunitive, but somewhat destructive of the individual's sense of personal rights and privacy. "A" group families, when asked what jobs they would like their children to prepare for, tended to select low status jobs reflecting fear of discrimination and feelings of inferiority arising from position of the group in this society. "B" group parents tended to have higher aspirations for children but seemed too much "other-directed" in their acceptance of majority patterns. It is plain that the curriculum in learning to live in families will differ rather markedly from one neighborhood to another.

The role that the school takes will depend on its facilities. It will depend on the status of the school in the community, and upon the community's desire to use the school for the purpose of family-life education. Already the parent education efforts, the parent and teachers associations, the parent-teacher conference, clinics, and other arrangements make some inroads on the conscious planning for family life. Within the elementary school curriculum increasing attention is being paid to helping children understand the emotional problems involved in their family life.

INFLUENCE OF PEER GROUPS

The peer groups that are formed during latency perform a number of important functions for the child and for society. The peer group enables the child to move away from the close ties with his family and into a wider kind of association. His relations with his peers is similar to those with siblings. From them he learns how to get along with others who are his

equals. He learns the social skills and attitudes that he must have to work and play with others.

The peer group membership changes fairly rapidly and the individual can try out in several different groups and move from one friend to another. In this way the learning situation can be changed, and it is less emotionally involved than the family situation can be. The peer group, for a time at least, may enable children to learn about other ways of behaving characteristic of different socioeconomic levels, and different kinds of families—authoritarian, democratic, or warmly responsive. Peer groups formed by children as they get older tend increasingly to follow class lines, the ultimate of this occurring in adulthood in urban settings.

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school has been pictured as providing a kind of common ground for all children. How can it still do so given the varied influences on personality growth and development in varying neighborhoods?

Over the past half century there has developed a broad conception of the social functioning of the school in our society. Some of these conceptions are stated below. However, in the difficult and detailed job of curriculum making, schools in different neighborhoods will have to find ways of carrying out these purposes that involve different activities, different timing, and different solutions for individuals. It is also vital that in our search for common goals we do not chain the gifted nor defeat the handicapped.

Some of the broad functions of the school that are derived from the basic theory of Chapter 1 are:

- a. to help the individual learn to live in the community productively, creatively, and with reasonable freedom from tension;
- b. to help the individual function with comparative freedom from undue anxiety in democratic, inevitable conflict situations, and to give him the skills essential to a free society;
- c. to help the community improve its group life by better techniques of planning, better human relations based on understanding of the problems of communication;
- d. to help the individual acquire skills and knowledge to enable him to find a place in the "working" structure of society;
- e. to help the individual develop an ethical value system and moral conduct through the experiences he has at school;
- f. to help the individual develop personality functioning that enables him to live fully in a complicated and novelly emerging society.

The curriculum problem of providing experience for children to give them the "skills essential to a free society" is certainly different in a neighborhood where physical aggression is most often resorted to as a means of settling disputes than it is in a better-income level neighborhood where cliques, gossip, and mild character assassination may be the prevailing methods of expressing hostility. In the first the school needs to provide, among other things, more experience with solving differences by talking things out. In the second, the school can provide, among other things, experiences that help the individual gain insight into his own motives and into the effect of his conduct on others. The goal—skills and insights neces-

sary to a democratic society—is the same; the curriculum experiences are different. The same is true of the other broad functions of the school.

STUDYING FAMILY, PEER GROUP, AND NEIGHBORHOOD FOR CURRICULUM DEVELOPMENT

Out-of-school-activities study

The school should not work in the dark regarding the other meaningful experiences of children. In a sense the school is a complementary institution to others that impinge on children's lives. A study of what children do after school and on weekends will help the teacher understand the family and neighborhood culture. Have the children keep a daily record of what they do after school, after dinner, and on weekends for a typical week. Repeat the study later in the year. References that will help you make the study and interpret it are: Volberding, Eleanor, "Out of School Behavior of Eleven Year Olds," *Elementary School Journal*, 48, 432-441; Taba, Hilda, *With Perspective on Human Relations* (Washington, D. C.: American Council on Education, 1955); Barker, Roger, and Herbert F. Wright, *One Boy's Day* (New York: Harper & Brothers, Inc., 1951).

Diary

The values of a pupil diary are many. A carefully interpreted diary will enable the teacher to understand the family culture, the problems the child has, the kinds of responsibilities he carries, the socializing contacts he makes. The diary study requires that the teacher bring to the material a great deal of psychological and sociological information if the maximum benefit is to be derived from it. However, the teacher will grow in the depth to which he can probe in the material. A reference that will help you make and interpret the diary study is: Taba, Hilda, Elizabeth Brady, John Robinson, and William Vickery, "Diaries" in *Diagnosing Human Relations Needs* (Washington, D. C.: American Council on Education, 1951), pp. 9-30.

"What do you do with whom" study

In working with both the child and the parents it is desirable to know what kinds of contacts the child has with his family. There are various

ways of doing this. One way is to make up a sheet with headings across the top (mother-father-sister-brother-boyfriend-girlfriend-alone-other) and with a space below each for the child to record what he did with each person. A sheet for each day can be used. References that will help you make and use the study are: Lane, Howard, and Mary Beauchamp, "The Role of the Adult in the Child's Life," in *Human Relations in Teaching* (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955), pp. 178-200; Pearson, Gerald, "Development of the Relation with the External World: the Mechanisms of Incorporation and Identification" in *Psychoanalysis and the Education of the Child* (New York: W. W. Norton & Company, Inc., 1954).

Problem story technique

Generally this kind of study involves writing or finding a story the central problem of which can be shared by the group of children to whom it is read. Children at various ages tend to have some "normal" problems with which they need help. A sensitive teacher will be aware of the problems that may be particularly important for the children in her class. The technique includes reading the story up to the climax and then stopping to let the children discuss how they would solve the problem of the story or how they think the character should act. Taping the discussion will allow the teacher to go over the material later for a quiet analysis. A reference that will help with this is: Shaftel, George and Fannie, *Role Playing the Problem Story* (National Conference of Christians and Jews, 1952).

What I like about my (father, mother, sister, brother, etc.) study

It is often worthwhile to ask the simple question above in order to get at things in the family with which the child can be helped. Asking the opposite question, "What I don't like about my (father, mother, etc.)" is often unnecessary as many children bring it into their reply to the first question. Often the school learning of the child is interfered with by unsolved home problems. Also the child can be helped to understand the necessity of some adult behavior. A reference that will help with this is: Taba, Brady, and Robinson, "The Family" in *Elementary Curriculum in Intergroup Relations*.

"What do you like about your neighborhood and what do you wish were different" study

Because the neighborhood does help, or hinder, the socialization of the children, the school should know what goes on in the neighborhood and what the child's reaction to it is. What is he learning from the neighborhood? What are his contacts? References that will help with this are: Barker, Roger, *Midwest and Its Children* (Evanston, Ill.: Row, Peterson & Company, 1951). Taba, H., et al., "Community" in *Elementary Curriculum in Intergroup Relations*, pp. 63-99.

What do parents work at? What do fathers (or mothers) like about their jobs?

A simple question will get at these kinds of information. Parents should be prepared for the child's question either through an initial parent meeting, or through letters home. It can be one of the activities connected with the study of occupations. A reference that will be helpful is: Bossard, James, *Sociology of Child Development*, Chapter 13, "Parents' Occupations and Child Development," pp. 268-89.

SOCIAL CLASS AND PERSONALITY GROWTH

We have identifiable, broad, socioeconomic categorizations termed *classes*. There is no line that can sensibly be drawn between such classes; they make up a continuum of variations in class culture. However, children who grow up at various points in the socioeconomic continuum experience substantial differences. Movement from one class to another seems to be freer now than it was a half century ago, but there are restrictions on the individual's mobility. In a study in Kansas City³ it was found that about thirty-three per cent of middle aged adults had moved upward at least one social class, while twelve per cent moved down. There is some evidence to suggest that class movement is greater in some parts of the country than in others. The longitudinal study of adolescents made at the Institute of Child Welfare, University of California, indicated that about forty per cent of the group made class changes upward of at least one step.

As a society we have believed in an ideal of individual mobility

according to ability. Schools have accepted some responsibility for helping children acquire the skills necessary to realize their potential. However, it is easier for children from some family-neighborhood cultures to achieve than it is for others. The school is often not effective enough in removing the handicaps to personality development arising from inadequate family-neighborhood cultures. Too many children who appear in the early grades to have problems not well resolved seem little better off when they leave. They also tend to leave school earlier. These normal problems of personality development have been stated in Chapter 2 as including a sense of trust, autonomy, initiative, industry, and identity. Without reasonable success in resolving these basic problems, the individual cannot realize his potential. The optimum conditions for resolving them are, of course, not found in any one socioeconomic stratum. It is the school's role to help provide the child with a positive environment. A classless society is not a realistic goal, but a mobile society is.

Within each of the classes that may exist in a community there are again social distinctions. The concept of class is a generalization that does not describe all the individuals who happen to fall into the particular classification. Broadly speaking, the different classes are also different cultures. The child-rearing practices and ideals, sex mores, attitude toward the community, utilization of the public school, attitude toward learning, recreational habits, and concept of family, to cite a few, vary from one class culture to another. The conclusions of the study by Maccoby⁴ are used here to illustrate class differences in child rearing between the so-called upper class and upper middle class.

1. Upper-lower mothers are more severe in their toilet training.
2. Upper-lower mothers are much more severe in sex training. They begin modesty training at an earlier age, and insist on higher standards of modesty.
3. Upper-middle parents allow their children more freedom to show aggression toward the parents than do the upper-lower parents.
4. Upper-lower parents employ physical punishment, deprivation of privileges, and ridicule as techniques of control more commonly than do upper-middle parents.
5. Mothers in upper-middle class are somewhat warmer and more demonstrative toward their young children than are upper-lower mothers.

6. The relationship between the husband and wife is characterized by more mutual respect and affection in the upper-middle class. Among the upper-lower mothers there is more criticism of the husband, and the two parents disagree more about methods of bringing up their children.

That such differences are but a fraction of the differences that exist between families is, of course, true. What does their existence mean for the individual? For a society?

The White House Conference report⁵ stated that children from low-income families showed significantly higher numbers with neurotic traits, that children from low-income families were more often maladjusted. The report continues:

In school and in the community, children and youth of the lower-lower class are usually discriminated against by age mates and teachers and are made to feel that they do not belong. Most of them leave school as soon as the law permits and drift into the poorest kinds of job. The research workers maintain that it is not so much lack of money or intelligence, though both may be lacking, as it is lack of knowledge of how to behave in a middle-class manner that handicaps these children. However that may be (and the whole question is a very complicated one), it is certain that these children are made to feel ashamed and inferior in many ways and that their parents suffer similarly.

Redlich and Hollingshead in *Social Class and Mental Illness* have shown that the mental health problems suffered by individuals from different social classes vary, the lower economic levels being more often prey to psychotic syndromes, whereas the more economically able levels suffer neurotic ailments.

Children from lower economic levels

Havighurst and Hollingshead have shown from their research in Midwest communities some years ago that school success and staying in school tend to be the prerogatives of the children from upper socioeconomic classes.

Hollingshead's study of "Elmtown" revealed that sixty-four of the seventy-two high schools boys and girls from the lowest socioeconomic group in the community had failed one or more courses, and that sixty-two of the sixty-four left school the subsequent semester. Participation in school activities was also peculiarly the dominion of the upper groups. One

hundred per cent of the two highest socioeconomic groups participated, but only twenty-seven per cent of the lowest group did so. There is ample evidence that along with the lack of school success of the less advantaged children, irreparable damage is done to the self-concepts of the children and youth.

Since the Elmtown study there have been dramatic shifts in our population, and the geographic mobility of persons within the country have modified some of the things noted in the earlier study. There have been substantial changes in the income levels of large groups in the population affecting the behavior of individuals in them. The heightened rate of geographic mobility has increased contact of families of all social classes with resultant acquisition of new values and customs. Curriculum workers need to be aware of the problem and to study the new situation, not simply accept studies made elsewhere in other years.

Children from upper economic levels

On the other hand children from upper socioeconomic levels have their own problem in growing up. Often their contact with parents is inadequate and unsatisfying as the latter become involved in the social and professional complexities of their own lives. Frequently enough the emotionally important people in the lives of the children may be nurses, maids, chauffeurs, governesses, or cooks. The lack of immediate interest and involvement of many upper class families in the community also tends to deprive their children of a sense of responsibility to others and of a feeling of belonging to the place where they live.

Children from middle economic levels

The children from many middle class families bring other limitations to their contacts with life. An overweening sense of "respectability," of conformity to a mode, decreases the autonomy of the individual and moves him toward a fear of intolerance of variant kinds of behavior, which though variant are simply part of a pluralistic universe. Schools may overreward middle class children for conformity, not recognizing that conformity may be on a neurotic basis and, because middle class children fall beautifully into the role pattern, not questioning whether the children are really building inner control and peace.

SOCIAL CONDITIONS FOR PERSONALITY GROWTH

Amid all this complexity of human behavior and motivation, how do the teacher and curriculum worker find a base for working with all kinds of children and for developing the elementary school curriculum? In order to tie our discussion into the previous material on personality development as the core of the curriculum development program, we have taken from Cottrell and Foote's *Identity and Interpersonal Competence* a few of the economic, social-legal, interpersonal, and educational conditions that they hypothesize as affecting the growth of autonomy in the individual. Autonomy is defined by these researchers as the "ability to be oneself," involving "knowing oneself," "having or finding an unambiguous identity," and "being able to govern oneself in the sense of being able to choose among alternatives." These are hypotheses, as they should be, for although they are suggested by prior research they need to be further tested in situations of greater complexity and variety. The impact of membership in different class or culture groups upon the child's chance of developing into an autonomous person can be inferred when one compares these desirable conditions for autonomy with the conditions that actually exist for children in families, schools, and communities. On the basis of prior research, Foote and Cottrell hypothesize the following *economic conditions* as contributing to individual autonomy:

1. Autonomy is positively correlated with children's opportunity progressively to earn money for performance of economically significant work and to gain practice in the management of their own economic affairs.
2. Economic independence develops autonomy, while (a) chronic dependence undermines autonomy, (b) unemployment undermines autonomy.
3. Continual exposure to marked differences of reward for comparable effort reduces autonomy, whereas recognition of differences of effort by differences of reward enhances autonomy.
4. Autonomy develops in direct proportion to the experience of participation in governing the conditions of economic life.
5. Constant exposure to the inducement of wants that cannot realistically be satisfied reduces autonomy, whereas the inducement of wants within the range of realistic anticipation of achieving the means of realizing them encourages the growth of autonomy.

Foote and Cottrell hypothesized that the following *interpersonal* conditions are favorable to the development of autonomy:

1. The strength and persistence of autonomy are positively correlated with the number of respect responses received by the self from significant others in the person's life situation.
2. Possession of family name respected by others encourages autonomy.
3. Intimate presence of adequate models which enable the growing child to form correct sex identification is indispensable for the development of autonomy.
4. Autonomy increases as failure is met by assistance and encouragement for the next attempt rather than with derogatory personal condemnation.

Among many *educational* conditions favorable to autonomy four are listed below:

1. Instruction and practice in scientific method foster autonomy.
2. Since teachers frequently are models for identification, they affect the autonomy of pupils favorably if they can serve as autonomous models of unambiguous sex identity.
3. If the curriculum recognizes the development of diverse skills as an objective of education this will encourage autonomy, whereas approval solely for intelligence and intellectual achievement reduces it.
4. A programming of educational experience that affords intervals of solitude for the assimilation and integration of new knowledge increases autonomy more than programs that maintain a steady barrage of work and participation.

These hypotheses stress how vulnerable the individual can be to the social and economic conditions surrounding the family and neighborhood in which he grows up.

A number of things seem apparent from the previous discussion: (1) the optimum conditions for personality development of children are not found in any of the cultures of the different social classes; (2) the public school with its middle class personnel is probably a much easier place for middle class children to learn than for children from other broad groupings; (3) fewer of the conditions needed for good personality development are found in the lower income groups; (4) before the school can work with children, teachers need to know the children's experience

and opportunity to learn as a basis of deciding what extensions of opportunity the school can supply; teachers also need to know the realities of children's lives so that their school experiences can be related to them, and that teachers may learn the values of the community and its groups; (5) in the long run the professional responsibility of the school for children from all social classes lies in creating experiences for children in school that are built upon the realities of their own daily lives and upon the knowledge we have of the conditions that provide for maximum personality growth.

INFLUENCE OF THE TEACHER'S BACKGROUND

Teachers are drawn from all socioeconomic classes. There are some indications that a greater heterogeneity of origin is represented in some parts of the country than others. The West, for example, may draw teachers from a wider range of social classes. A study by Carlson²⁴ at the Administrative Science Center, University of Pittsburgh, of teachers' origins in the San Francisco Bay Area found that about thirty-six per cent of the teachers did not have origin in the middle social class. He found that male secondary teachers originated in forty-eight per cent of cases in the lower class. On the other hand, Carlson points out that twenty-three per cent of female elementary teachers originated in the lower class, seventy-four per cent in the middle class, and about four per cent in the upper class.

That there is some tendency toward middle origins has been asserted by other writers. The point to be emphasized is that, regardless of class origin and present class status of teachers, each carries into the classroom some of the cultural aspects of his particular socioeconomic group. The significance of middle origins has not been fully explored. It has been asserted that teachers tend more often to teach a middle class morality, appealing to motivations to which middle class children can respond and rejecting children who cannot find in middle class mores much that is useful in the lives they have to lead with the families they have. Some teachers, of course, identify with the lower social class children, warily reject those from upper social class backgrounds. The kind of personal insight into the meaning of one's own origin and status as it affects what one teaches and how one feels toward children with different kinds of values is still generally lacking in teachers. Teachers themselves are usually mobile people, that is, they are persons who have and would often like to

continue to improve their own status from that enjoyed by their families. Mobile persons in contact with children communicate this, as they do every attitude, to the children. However, foresight, moderation, delay of sexual gratification, these "binding of tension" characteristics, sublimating, diverting, substituting, are not the basis for motivation from children from lower groups. In their own environment children from lower classes are not consistently rewarded for taking on such middle class goals as learning, and avoiding sexual exploration. Much of what the teacher represents may be unusable for these children. Aggression is a lower class virtue and even necessity; but in school aggression elicits the teacher's most serious apprehensions. A school can build a program for teaching children to handle their aggressive impulses in desirable ways. The principles that apply would find different kinds of application in different situations, but in general they are the following:

1. Most of the school situations would be governed by firmly applied rules. Lining up to go out and in may make sense in such a situation.
2. Select a few situations, not many, wherein greater freedom is to be given. Plan carefully for these situations, discuss them with the children, evaluate them with the children, and try again.
3. The situations in which greater freedom is to be tried should be those in which success is most likely. Organizing for noon games, for example, may be a good situation for a beginning.
4. The situations in which greater freedom is to be tried should also generally be those closest under teacher control, for example, planning in the classroom.
5. Individual contact of pupils and teachers should be used to stress better methods of settling disputes, using words, being fair, and understanding how the other person feels.
6. In most respects, but not all, the school situations are handled somewhat like those in the families in the neighborhood, with this important distinction: there is a consistent effort to add to the amount of freedom that can be offered to the children and adequately handled by them.

All this raises questions of the teacher's role. Certainly the first step is for teachers to know the detailed lives and values by which these children live. The conduct of these children is as rational and appropriate as is the behavior of children from other levels. Knowing this and feeling this,

getting at what the *child's behavior means to him*, is a teacher's first responsibility.

INFLUENCE OF CLASS DIFFERENCES ON CHILDREN

That distinctions as to wealth and status are thought about early seems evident from existing research. As children grow older the capacity to make distinctions in the way and on the same basis that adults do increases. Stendler's research indicates that the stage of "beginning awareness" of such distinctions is reached in the intermediate grades. The stages of recognizing individual differences among children regardless of social class is not generally reached by eighth graders, perhaps not by adults. The increased recognition of class differences is paralleled by the changes in selection of friends, choice of out-of-school activities, selection of future occupations.

The curriculum implications of this question are more fully discussed in the chapter on human relations. However, one intrusive notion is that if schools were more genuinely living situations the stage of recognizing individual differences regardless of social class differences would be reached sooner by many more children than is now the case.

The school, social class, and social mobility

The school has become one of the principal avenues for social mobility for persons in our society. At one time the church and the military were avenues for mobility for men anxious to improve their status. By entering the church even the poorest with ability could lift themselves up to some degree of status. Men gifted with a capacity for war found the military a way to acquire honors. Supplanting these institutions, the school is increasingly seen by individuals and utilized by institutions in our society as a means of mobility and as a mechanism for screening or distinguishing ability. The extent to which we will continue to use it is indicated by a trend toward the use of the entire ladder of public education by virtually everyone in the population. Utilization of the schools by industry for training for vocations and for basic research is another indicator. In a society with considerable inequality in the background with which families can furnish children, the school has inherited a difficult responsibility in becoming one of the principal agencies for furthering the democratic ideals held

by the society. Millions of persons, children and adults, use the school as a means of making themselves socially and economically mobile. Or perhaps it is better to say that because they take advantage of the public school they acquire the skills, social and vocational, that result in greater mobility. There remain, however, the millions of children who, because their background is so different from that of the personnel in the school, or because their defenses make it difficult for them to learn from the school, cannot make good use of the school as a means of personal-social growth, and hence find mobility difficult. This remains as one of our more serious curriculum problems. When we ask, "How should one school differ from another in the varying neighborhoods in which they are located?" we are saying also, "How can the school serve its function of making children free to develop their potential when they come from backgrounds that are so different, that so often conflict with the values and accepted motivations of those who run the schools, and when these are sometimes antithetical to society?"

STUDYING CLASS STRUCTURE AND CULTURE FOR CURRICULUM DEVELOPMENT

The manner in which the school can have most impact on the problem of individual mobility in a society with social classes is in its work with each child as an individual. It is important for both professional integrity and economy of time that the information collected have relevance to the experiences of children in school. A voyeuristic approach to social class analysis is unworthy of the profession.

Overview of the community

Curriculum workers need to look at the total community in such ways as these: how it is divided into areas or districts; distribution of industry, retail business, apartment houses, single residences, and so on; ages and rough market values of houses in different areas; distribution of playgrounds, community centers; population densities; churches; where people earn their living; where people who earn their living in different enterprises live; in the different sections of the community what seems to be the pattern of use of public recreational facilities; in conversation, what people talk about most in relation to their community, what has happened to the

different parts of the community over the past decade. A useful reference: Olsen, Edward, "Understanding the Community," in *School and Community*, pp. 49-87.

Parent-teacher conference

The parent-teacher conference is undoubtedly one of the most valuable opportunities the curriculum worker has for learning the values that the child learns at home. The teacher should note the parents' feelings about their children, how they discipline them, what they expect of their children in school and out of school, what their aspirations are for their children, the speech patterns, the social skills of the parents, their feelings about schools and teachers, their understanding of the problems children have in learning to get along with others, and many other traits. Although notes should not be taken during the conference except on routine things, the teacher should write as extensive a summary of the meeting afterward as time will allow. The curriculum director should also work with teachers in preparation for parent-teacher conferences so that data on the needs of children can be secured that will be of value in curriculum development. A useful reference: Hymes, James, *Effective Home-School Relations* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1953).

Sociometric studies

It is useful for the school to know to what extent the social structure of the community is reflected in the school. The idea of the public school as a common ground can be defeated by the transferral of class distinctions, sometimes in exaggerated form, from neighborhood to school. Some useful references: Taba, Hilda, *et al.*, "Sociometric Procedures," in *Diagnosing Human Relations Needs* (Washington, D.C.: American Council on Education, 1951), pp. 71-97; Gronlund, Norman E., *Sociometry in the Classroom* (New York: Harper and Brothers, 1959).

TEACHERS AND SOCIAL CLASS

Children from different backgrounds

Teachers have to be able to accept the great variations of child behavior that derive from the different values held by families with contrasting

cultures. By acceptance we mean that the teacher understands the reasonableness of the child's behavior for *him*. When this meaning of the child's behavior is known, acceptance of it is much easier. This does not mean that the school does not try to modify behavior; it does. But it does so fully understanding the child's environment and his own values. Where the typical neighborhood pattern involves physical aggressiveness, the school may incorporate more opportunity for expressing this in acceptable ways in sports, in more physically active kinds of learning. At the same time the school will gradually and selectively introduce ways of settling disputes, ways of using energy, that are more appropriate for the child in his contact with the community at large.

Insight into his *own* culture biases is essential for a teacher. There are teachers who cannot accept "dirty" children, "aggressive" children, "profane" children, "low class" children; often this feeling of rejection is not verbalized but it permeates in subtle ways the whole relationship of the teacher and child. A basic question for anyone working with children is "Why do I feel this way about this child?" "What is there in my own personality makeup that causes me to react in such a way that my working with this child is affected?"

On the other hand, there are many whose reaction to children of the well-to-do is defensive, subtly hostile, or sycophantish. The job of separating oneself from one's own experiences enough to be able to see their influence is not simple. In teacher education it has become one of the important goals.

The teacher's role in relation to children from inadequate home situations is particularly vital. Adults in this highly technical and complicated society have to be more disciplined, more capable of binding tension, with basic impulses restrained, transformed, and diverted. In order for children to develop in this manner, someone has to *care* a great deal. Someone, parents or teachers and preferably both, has to care enough to devote the energy to teach a child these difficult personality characteristics. In some schools, more than others, the teachers must take this onerous role—or no one will.

The teacher represents reality in his relation to children. His is the job of setting limits for the behavior of children, limits that eventually will come to be accepted and internalized by the child as his own. These limits develop into these general limitations which all must accept in order to live in a society of other men. But there are two considerations of relevance: (1) the limits that are set should not be derived from the teacher's own

class bias as to what constitutes "good" behavior; they are established in the light of individual needs for limits; (2) the limits only gradually, as the child matures, approximate those that must be accepted by the mature citizen in a democratic society.

The teacher has a job to do in helping children become sensitive to values and feelings of other children. This means setting up a *living* situation in a classroom wherein these feelings or attitudes have opportunity for expression and hence for understanding. A class *can* be run in such a fashion that children learn almost nothing about each other's feelings or of the impact of their own feelings upon others. This kind of "straight row," fact learning situation is still with us in much greater degree than one would be led to believe by those advance critics of "permissive education."

Working with parents from different socioeconomic levels

The teacher's role with parents of different socioeconomic backgrounds has a bearing on the curriculum of the school. First, we have to learn from parents some of the things that let us know what the child's behavior means to himself. Second, we learn from parents enough of the motivations, the values, that move them to enable us to know the kinds of school experiences that children will be able to use, considering the values held by their parents. The school has a supplementing function, but this supplementation has to be realistic. The school's conception of what children need may be consistent with the over-all philosophy of our society, but the children's background may make it impossible for them to really engage in the school curriculum; the curriculum may conflict radically with the home's values so that in order for the child to accept the school's offerings he must reject his home. This is neither desirable nor very likely, except in isolated instances. It is apparent that one of the principal outcomes of teacher-parent contacts is an understanding by the school of the specific life pattern of the child.

The school, on the other hand is not understood by many parents. This is particularly true of parents whose own background is not middle class. These parents show their attitude toward the school in several ways. They may stay away from the parent-teacher association meetings. They avoid visiting school except under the compulsion of "children in trouble." These parents may also be afraid of the school; their own experience with it may have been less than satisfactory. Faced with it again

through their children they may be suspicious and even defiant toward it. Also they may not understand the school's attempt to build self-control and would prefer that the school use repressive measures. Schools may seem far enough from the realities of their lives so that parents feel alien toward them. Schools have to make their curriculum and community services usable to the particular neighborhood that they serve.

Upper-class parents often have their own problems in dealing with teachers and in using the school. Parental aspirations may tend to exclude the school except as a place where children are taught subject matter necessary for the child to compete in private schools and colleges. They have some difficulty in accepting teachers as professional people and may develop a "double standard" in their thinking about school personnel. That is, they may willingly employ as administrators or teachers individuals whom they would not accept in their own professional setting. This attitude may affect the children and their use of the school.

The parent education role of the school also needs clarification as to its legitimate and feasible goals in the different milieu in which the school operates. The kind of parent education that works is that which is very close to the immediate concerns of parents. In some neighborhoods the well-baby clinic or inoculation programs are the first things to bring parents into a constructive relation to the school. In other neighborhoods agreements among parents about spending money, movies, dating discipline, or television viewing may be the things that bring parents into a discussion group. Whatever the focal point it is best found in the parents' immediate concerns.

Function of intelligence tests

No device has caused more misunderstanding among teachers and parents than the intelligence test. Fortunately few people now take the attitude toward these tests that prevailed a decade or so ago when an I.Q. was regarded as the final crystallization of truth about a child's potential. But much damage has been done. The tests have been misused to justify differential treatment of racial groups, social class groups, and ethnic groups. For a long time the class bias of the tests in existence was not recognized. Children from lower-class, from other ethnic or racial groups were tested, and condemned as basically inferior by their performance on a test constructed with middle-class vocabulary assumptive of common experi-

ences for all children everywhere. When the Stanford-Binet came to Hawaii, for example, the results were entertaining if not accurate. Children raised among papaya, sugar cane, pineapples, and poi met mainland landscapes with barns, silos, and corn. They did not do well. Later the test was modified for Hawaiian use by substituting vocabulary and concepts that had their representation in Hawaii. Intelligence tests administered to Negro students in New York, Nashville, and Birmingham showed New York Negro students superior, Nashville next, and Birmingham students lowest. Different school and home conditions in the different regions accounted for the variation.

It has not been possible to construct a "culture free" test of intelligence. A culture free test is probably an impossibility. Tests as measures of ego functioning necessarily draw their material from the content of a culture. The judgment of a teacher trained to observe children in their daily attempt to solve the problems important to them may give a better estimate of the potential of children from different social class, racial, and ethnic backgrounds than one can secure by means of the group intelligence tests in common use.

Variability in intelligence tests results is now so well established as to scarcely deserve comment. The experiences with children in Hawaiian schools is just another illustration. From the time of the first group intelligence tests given in school, usually third grade, through the remainder of public school, the *average* intelligence increases each time—in the sixth, ninth, and twelfth grades. That this is a result of the gradual "filling in" at school of those experiences assumed to be common by the test makers seems apparent.

Honzik⁷ found in her longitudinal studies at the Institute of Child Welfare that I.Q.'s of almost sixty per cent of the group (age six to eighteen) studied changed fifteen or more points. The I.Q.'s of nine per cent of the group changed thirty or more points. Children whose mental test scores showed the most marked fluctuations had life histories that showed unusual variations with respect to disturbing and stabilizing factors.

In this dilemma the school has two roles, neither exclusive of the other. The first is to supplement the experience of the youngster with a rich curriculum at school composed not only of so-called common learnings but of those social skills that enable the person to become effectively mobile in his environment. The second, even more the high school's problem than

ours, is to furnish the kind of educational experiences that each child can use. Obviously the academic curriculum that enjoys the highest status and often is the only curriculum offered is unusable by great numbers of children.

CHANGING THE SCHOOL CULTURE

Like the family or a neighborhood a school has a culture of its own. It is a thing built of the relationship between teachers and pupils, between teachers and principal, between pupils, and between the parents and the school personnel. But above all these it is a reflection of the community in which the school exists.

The social climate in which a child lives is for the child as important as the air he breathes. The group to which a child belongs is the ground on which he stands. His relation to this group and his status in it are the most important factors for his feeling of security or insecurity. No wonder that the group the person is a part of, and the culture in which he lives, determine to a very high degree his behavior and character.

In its detail the school culture, as Taba has written in her analysis of school culture, is made up of the "set of folkways, mores, and irrational sanctions," of school laws and ways of enforcing them, of customs regulating the relations between the sexes, of traditional activities, days, and ceremonies, of the concept of the proper relationships between pupil and teacher, of the clique structure in the school, and many other specific things that define the total relationship pattern. These are the *rites de passage* of the school. Schools set up a series of rites that mark for the child his progress in growing up: traffic duty in the sixth grade, cafeteria duty in the fifth grade, lipstick in the ninth grade. We need to do this more consciously, meaningfully, and consistently. We need to invent more meaningful *rites de passage*. In a complex urban community these rites are often missing; the individual remains unreferenced with respect to the degree of his maturity and responsibility.

From this school culture the pupil absorbs, as a fish absorbs oxygen from the water that surrounds it, his ideas about what a school should be like, a sense of his own status in relation to other pupils, and an extension of his own self-concept as it is reflected from his relations with pupils and teachers. The importance of the school culture has not been sufficiently

taken into account by curriculum workers. Often enough, numerous aspects of the school culture seem to have developed negatively, consisting of rules, regulations, customs, mores, relationships imposed by school personnel in order to ease their task of teaching the subjects of the elementary school. The educator's own lack of objectivity about his own culture reference points perhaps may keep him from noticing the educational significance of the school culture. Now that there is a general acceptance of the concept that the curriculum consists of all the experiences that children have at school, we are also beginning to work with this important influence on children's development.

STUDYING SCHOOL CULTURE

Study of traditions and customs

Make a complete study of the school's rituals and ceremonies (e.g., songs, colors, yells, cheers, athletic events, graduation exercises). Make a study of events that seem to have significance as *rites de passage* at various grade levels.

Study of values

Study the values of the school. What activities are seen by the children as having more prestige or value? What do they consider desirable behavior in pupils in their grades? Ask open-ended questions like, Who do you think is the most popular person in your class and why?

Study of relationships to the teacher

The teacher is the important adult in children's lives in the school setting. Ask such open-ended questions as: What I like about teachers; What I don't like about teachers; How can my school be improved?

Sociometric study of friendships

Ask children to make choices (unlimited) as to whom they would like sitting next to them. Ask open-ended questions like: What I like in my best friend and why.

Attitude toward learning

In an elementary school class the attitude toward learning can be determined by discussions, e.g., What I like to learn most; what do you do with the things you learn? Careful observation of children working in groups, talking about their work or their evaluation, can yield a good idea of the children's acceptance of the role of learner. As the teacher's knowledge allows he should also probe for the reasons the child seems to have for learning.

ADAPTING CURRICULUM TO THE NEIGHBORHOOD

Schools have tried many ways to make themselves more effective in the neighborhoods they serve. In the material below the principal criteria that guide these adaptations are suggested, with more examples.

Language arts

When the environment is poor in the sense that there is little opportunity to learn to speak well, to communicate successfully, the school needs to provide more opportunity for children to talk, to discuss and to express themselves, to communicate, than would be true of a neighborhood where the home and group work agencies furnish much opportunity for this.

The school's extra-curricular activities should reflect an analysis of children's out-of-school activities. When children come from an environment where there is a wealth of experience furnished them outside the school—music, group work, dancing, and the like—the school should not duplicate these, but turn to kinds of curricular experiences not stressed by the family.

If the children's spoken vocabulary is poor so that it affects their beginning to learn to read, the school needs to delay the reading program, provide enrichment of experience through trips, visual aids, listening experiences, and others.

In schools where children are bilingual, provisions should be made for helping them learn the major language as quickly as possible. Schools have tried a number of things: segregated classes in which there is intensive work on English; tutoring by special teachers; inclusion in regular classes

with special help from a floating teacher or vice principal. Many schools with Spanish-speaking children also teach Spanish as a language to all the children, beginning at the third grade level.

Social studies

Because the social studies in a modern school occupy such a large portion of the school day, they have had a larger and larger role to play in the development of children. The social studies bear a major responsibility for the socialization process. In some neighborhoods there are many forces operating to assist in the socialization process. In others the forces operating may be inadequate or even inimical to the process of socialization. The school has the task of more consciously developing in the children the interpersonal skills, the value concepts, the understanding needed to act appropriately in the various life situations in which the child finds himself now and will find himself as an adult. In this task the school is a supplementing institution as well as a primary one. In some neighborhoods the socialization process falls especially heavily on the school.

Through the social studies particularly the school helps children learn their roles: as leaders, as hosts, as group members, as brothers, as learners, as guests, as protectors of younger children, as fathers, as mothers, as members of a community, as voters, and so forth. The content and method of the social studies should be selected to help children with their basic conflicts and with their need (social demand) for knowledge and competence about the world of human relationships.

Each school staff should make an assessment of its neighborhood, of the socialization needs of the children in the school, and build curriculum experiences in the social studies according to the particular characteristics of the neighborhood. From anthropological literature we can get many insights into this neglected aspect of the social studies. Using this conception makes it easier for us to understand the varied behaviors we find in our children from school to school.

Social studies also reflect in content the history, culture, social characteristics, economic institutions, and value systems of the community. The suitability of this information, which is very important even to children, depends on its translation into experiences close enough to the lives of children to be accepted by them.

Mathematics

The handicaps to learning mathematics are not so tied up with environmental situations as are those of other subject areas. In fact in some basic mathematics, because of the dynamics behind learning the subject, children from disadvantaged homes may do better. Early intimate experiences with money, or the lack of it, with counting things that one has or wishes one had, the keeping track how much one has compared to one's brother, with selling and buying newspapers or milk, teach a practical facility in handling numbers. Later these advantages tend to disappear. How to use the environment in teaching mathematics and how to build on the mathematical facility already present are problems that take some coloration from the neighborhood in which the school exists.

Arts and crafts

The arts provide a free medium at least in some school situations. The subculture can be expressed freely without fear that others from other subcultures will not approve. There is an open character to music, art, and drama that provides an avenue of expression for all. In disadvantaged neighborhoods the arts may serve a very special function in the growing up emotionally of many children. In more advantaged areas the arts may not play so important a role.

In one of our schools, in a neighborhood of Spanish-Americans, the curriculum stresses much art experience. The children bring from their families a love of color and of expression. It provides a transition between their family cultures and that of the school. The children are proud of their art expression. There is a permanent art gallery of children's productions.

The arts also provide one of the easier means for the individual to become mobile. In the dynamics of personality that produce the artist, the musician, or the actor there are elements in poor circumstances that give rise to the use of an media as a way of reacting to these circumstances and interpreting them for oneself. Most of the time the talent dwindles and the energy that might have sustained it is required for other life problems. The school's role includes the identification of such abilities, providing opportunities for their expression during the school day, and cooperation with community agencies in furthering the development of children who have the capacity to find themselves through the arts.

Social skills and human relations

This is an area that marks a significant difference between children raised in contrasting environments. Whether children will grow up to realize their potential is often dependent on their acquiring the social skills needed for communication with others. Deliberate teaching of the social skills seems essential if the school is to serve its function of promoting social mobility.

Self-knowledge is an important outcome of school experiences. If it can be secured it will enable the individual to handle himself in interpersonal situations with greater success regardless of social distinctions. The principal laboratory for learning these interpersonal skills, the social skills, is the classroom. Taba lists three factors upon which success in handling relations with other people depends: (1) comprehension of the intent of the other person in a situation; (2) understanding how others react to one's own behavior; (3) understanding that alternative behaviors are possible and that one can choose among alternatives. That children can learn these by studying their own classroom is now more commonly recognized than ever.

Health, mental and physical

That the program for health education differs from school to school is quite well established. Where children are phalanxed by pediatricians we give less attention to the primary health concerns. Where even the most rudimentary health needs are inadequately met by the family we have marshalled community agencies to help feed and clothe children. Where the common routines of health care are not furnished by families we teach more of them at school.

In the light of the central idea of this text, personality development as basic to curriculum development, the mental health concerns of the school are very broad. A school that orients itself to build its curriculum to further children's progress with their stages of development or developmental tasks is engaging in preventive mental hygiene. From neighborhood to neighborhood the school's task of providing an environment positively oriented to mental health will vary. Where the problems of growing up are accentuated by poverty, congestion, and exposure, the school needs to help children find their way to resolving these problems. It is as hard or harder in some upper socioeconomic neighborhoods for children to develop some aspects of identity and some roles. The parental role is often farther

too small and infrequent to accommodate the children, the school has adopted the practice of dismissing at the usual time and reconvening again in five minutes to go on with school work or with freer kinds of activity in the classroom. Virtually all the children remain; doing so is a voluntary matter worked out in cooperation with the parents. In other neighborhoods this practice would serve no useful purpose and perhaps would not be accepted by parents.

Ungraded primary

There are enough different interpretations of the ungraded primary to warrant stating the kind meant in this discussion. The ungraded primary here is meant to include the practice of making no grade promotions and grade placements during grades K-3. The pupil works with his age group or with any other group to which his maturity and ability make it profitable to assign him. Only at the end of the primary grades is a decision made as to his going on into the fourth grade or remaining longer in the primary. In some neighborhoods this type of organization seems to have particular relevance. It gives the school a chance to work with the limitations of background of the children and to provide those compensating experiences that enable the child to catch up somewhat in his readiness to read, and to learn before a decision is made about him. In the decade preceding this one from ten per cent to twenty per cent of first graders were failed in some of our larger city elementary schools. A better way to produce a fear of reading—the principal criterion of failure—would be hard to discover.

Class load

In the most disadvantaged areas, the class load of teachers should be substantially reduced to allow the teacher to care for individual needs and to let the children make use of this stable and important adult for identification purposes. Classes of twenty or less seem advisable, but there is no research that would apply to all situations, and schools must experiment with the problem.

Psychological services

The disadvantaged areas are particularly in need of more psychological and psychiatric services. Generally, the children from disadvantaged areas,

like the adults, cannot secure psychological and psychiatric services that are necessary. They are financially beyond reach, and the organized approach necessary to find the way through channels to a referral is often lacking in such families. Schools in such areas should have, in some instances, a full time clinical psychologist and access to psychiatric services.

More money

If we mean what we say about equalizing opportunities we are going to have to spend more money on some schools than on others. The supposition is that the schools that now tend to get less than others are going to require more than the others. This may be a difficult state of affairs to achieve, given current methods of support and control of schools. At this age, when their principal problem is that of identity, some consistent contact with individual teachers is needed. This can be done by the core course arrangement in the junior high or by the self-contained classroom, modified by the use of special teachers in the K-8 system. The more chaotic the child's life is outside of school the more essential it seems to provide stability within the school.

Size of school

In this day of school building shortage the consideration of "How big should a school be?" gets pushed aside. Elementary schools have been most fortunate in maintaining a smallness in size that kept them from losing children in the mass. Secondary schools have often grown so large that students feel anonymous in the mass of others, knowing no one well and known by no adult in the degree essential for an adolescent. The large size of schools throws the students more upon the resources of the peer gang and his lack of conspicuousness allows him to feel that he can ignore the tenets of good conduct. The teachers faced with a hundred or even two hundred different students a day find it increasingly difficult to take that kind of personal concern with individual students that characterized teacher-student relations in smaller schools. In neighborhoods where children already are lacking the control of adults who care, the large school cannot easily supply it either. There seems little doubt from what we know about how children learn controls and learn attitudes that we should keep elementary schools small enough to allow children to use the important adults in their lives, teachers among them, for purposes of identification,

and small enough so that they can set up productive interpersonal relations with their peers; and yet large enough, also, so that children can find others with whom to establish productive relationships. This seems important in any neighborhood but particularly in neighborhoods where other stabilizing, educating influences are lacking.

Homogeneous grouping or heterogeneous grouping

When children are grouped either within a class or segregated in different classes according to standard measures of ability and achievement, those in the lower socioeconomic levels falls more frequently in the lower groupings. Schools that organize their classes according to these standard measures end up with the lower social class members making up the bulk of the lower "ability" groups. The acceptability of this depends on the educational objectives that are thought most important by the school and neighborhood. Homogeneous grouping is always known by the neighborhood even if the school would like to dissemble its practice. The effect on pupil self-control and, more likely still, the effect on the parents' conception of their child is often disastrous, as seen from individual cases.

What is needed is a kind of flexible grouping that allows schools to work for the broad range of objectives in which they believe. In teaching social skills, interpersonal relations, a heterogeneous group has obvious advantages. For specific instruction in reading skills some homogeneity seems best. Let us use groups according to our purpose. Total categorization of a child as inferior, which is implied by complete homogeneous grouping, is intolerable in its effects on the person's self-contempt; temporary categorization according to need that one can recognize is an experience all individuals learn to accept.

Community school

It is doubtful that the school can operate effectively in varying curriculum without involving the school deeply in the community and the community in the school. If this is to be, in a sense, Operation Bootstrap, the families in the community must also be helped to understand the specifics that are necessary for adequate personality growth. As Takeuchi and Wells² found in their study, it was the lack of specific understanding of what makes a difference in the rearing of children that makes up the principal difference between effective and ineffective families. There has never been an adequate

conceptualization and theory of the community school idea. Certainly the relation of community variation to curriculum variation has a place in a prospective theory of community school.

Human and natural resources of the community

Although the foregoing material is largely devoted to differences between schools that arise from variations in the socialization patterns that children experience in the families to which they belong, the curriculum also reflects differences in the basic life of the community. Included are the ways in which people make a living, the natural resource base upon which the community's economy rests, and the kinds of solutions made to the problems of health, education, production and distribution of goods and services, transportation, government, and esthetic resources. Since the thirties this aspect of curriculum variation has been amply stressed, and materials are available to help teachers utilize these aspects of the community in their teaching. The importance of this for children rests upon the fact that it is reality and that the development of concepts by direct experience is initially a requisite to learning and through as many sense modalities as possible.

Junior high school organization vs. eight grade system

A great many benefits have been claimed for the junior high school type of organization. If these were ever attainable, many of them seemed to have been hindered by the practice of creating very large junior high schools, breaking up the day into nine periods more or less, and shifting the pupils from one teacher to another so frequently that none could become familiar with the individual. On the other hand, the meaning of the junior high school as one of the series of *rites de passage* is important. The K-8 grade system tended to delay the pupils' plunge into "teen-age cult." It may also deprive pupils of the variety of contact with different teachers and with greater choice of activities. There is no research bearing on the values of these two forms of organization in relation to the social backgrounds of children.

STUDYING ORGANIZATIONAL NEEDS

The first step in most curriculum development work involves a study of needs also.

Study of neighborhood

The facilities for recreation in the neighborhood should be studied and a map of their location and statistics on their utilization gathered from the recreation agencies.

Study of emotional needs of children

The teacher should know the home situations of the children—with whom the child lives, number of siblings, economic conditions, out-of-school work of child, and the like. Careful observation of the children in the classroom and playground will also help us to know what kind of emotional use the children want to make of teachers. Should one teacher follow a class for two or three years?

Study of readiness

Knowing the kinds of difficulties children encounter when they come to school for the first time will help the school know how to organize the early grades. What are the language difficulties? What are the conceptual limitations of the children? Should there be a longer period for children to compensate for background handicaps before they are formally failed or retarded?

Study of achievement

Some rather poor schools in higher socioeconomic level neighborhoods do not meet their responsibilities. The advantage of home background shows up as good school achievement, for which the school takes credit. A school should know whether it is really contributing to the pupils in such an environment. Make a study of the achievement of pupils compared to their ability. Compare schools in comparable neighborhoods.

The school's broad aim for children from every background includes the skills and flexibility that enable them to be effective in their relationships with people of every level. Their ability to communicate and their self-knowledge enable them to be mobile if this is their goal or live fully in their vocations and in the associations they choose. For this purpose the school should vary its organization, select and train its personnel, and relate itself to the neighborhood with precise knowledge of the effects of these things on the growth of children.

BIBLIOGRAPHY

MATERIALS ON FAMILY AND NEIGHBORHOOD CULTURE

What is the relationship of the school to family life in the neighborhood?

- Ackerman, Nathan, *Psychodynamics of Family Life*. New York: Basic Books, Inc., 1958.
- "Children Bring Their Families to School," *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.
- Bossard, James H. S., "Family Culture and the Child," *The Sociology of Child Development*. New York: Harper & Brothers, 1954, pp. 119-39.
- , "Family Rituals and Child Development," *ibid*, pp. 290-314.
- Freud, Anna, *Psychoanalysis for Teachers and Parents*. New York: Emerson Books, Inc., 1954, pp. 11-63.
- McClelland, D., A. L. Baldwin, U. Bronfenbrenner, and F. Strodbeck, *Talent and Society*. Princeton, N. J.: D. Van Nostrand Company, Inc., 1958, pp. 135-94.
- Taba, Hilda, Elizabeth Brady, and John Robinson, "Family" (Chap. 2) and "Community" (Chap. 3), *Elementary Curriculum in Intergroup Relations*. Washington, D. C.: American Council on Education, 1950, pp. 29-62.
- Wolfenstein, Martha, and Margaret Mead, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955.

MATERIALS ON PEER GROUPS

- "Children Teach Each Other," Chap. 3, *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.
- Havighurst, Robert, and Berruce Neugarten, *Society and Education*. Boston: Allyn and Bacon, Inc., 1957.
- Bossard, "The Role of Peer Groups," *op. cit.*

MATERIALS ON SOCIAL CLASS AND SCHOOL CURRICULUM

Do we have a class structure?

- Barker, Roger G., "There is No Class Bias in Our School," *Progressive Education*, XXVII (February, 1950), pp. 107-10.
- Hand, Harold, *Principal Findings of the 1947-1948 Basic Studies*. Illinois Secondary School Curriculum Program, Bulletin No. 2, pp. 12-15.
- Hollingshead, August, *Elmtown's Youth*. New York: John Wiley & Sons, Inc., 1949, pp. 168-72.
- Warner, W. Lloyd, *American Life: Dream and Reality*. Chicago: University of Chicago Press, 1953, pp. 55-60.

- , Marchia Meeker, and Kenneth Eells, *Social Class in America*. Chicago: Science Research Associates, 1949.
- , Robert Havighurst, and Martin Loeb, *Who Shall Be Educated*. New York: Harper & Brothers, 1944.

What is the effect of class membership on staying in school?

- Davis, Allison, *Social Class Influences on Learning*. Cambridge, Mass.: Harvard University Press, 1948.
- Mulligan, Raymond, "Social Mobility and Higher Education," *Journal of Educational Psychology*, April, 1952, pp. 476-87.
- Warner, et al., *Democracy in Jonesville*. New York: Harper & Brothers, 1949, pp. 205-06.

What is the effect of social class membership on personality?

- Foote, Nelson N., and Leonard S. Cottrell, *Identity and Interpersonal Competence. A New Direction in Family Research*. Chicago: University of Chicago Press, 1955, pp. 1-94.
- Maccoby, Eleanor E., Patricia Gibbs, et al., "Methods of Child-Rearing in Two Social Classes," in Martin, W. E. and Celia Stendler, *Readings in Child Development*. New York: Harcourt, Brace and Company, Inc., 1954, pp. 380-96.
- White House Conference Report, 1950. *A Healthy Personality for Every Child*. Raleigh, N. C.: Health Publications Institute, 1951, pp. 1-52.

How does the teacher's socioeconomic origin affect curriculum?

- Becker, H. S., "The Career of the Chicago Public School Teacher," *American Journal of Sociology*, LVII (1952), pp. 57, 470-77.
- Jersid, Arthur, *When Teachers Face Themselves*. New York: Bureau of Publications, Teachers' College, Columbia University, 1955.
- Rettig, S., and Benjamin Pasamanick, "Status and Job Satisfaction of Public School Teachers," *School and Society*, XXCVIII (March 14, 1959), pp. 113-16.
- Sims, V. M., "Social Class Affiliation of a Group of Public School Teachers," *School Review*, Vol. XLIX, No. 6 (1951), pp. 59, 331-38.
- Warner, *American Life: Dream and Reality*, pp. 176-80.

Do children recognize class differences?

- Stendler, Celia, *Children of Brasstown*. Urbana, Illinois: Bureau of Educational Research and Service, 1949, pp. 90-95.

Can the school be an instrument for social mobility?

- Havighurst and Neugarten, "The School in the Social Structure," *Society and Education*.
- Warner, W. Lloyd, Robert Havighurst, and Martin Loeb, "Who Shall Be Educated." New York: Harper & Brothers, 1944, pp. 141-48, 157-58.

BIBLIOGRAPHY

MATERIALS ON FAMILY AND NEIGHBORHOOD CULTURE

What is the relationship of the school to family life in the neighborhood?

Ackerman, Nathan, *Psychodynamics of Family Life*. New York: Basic Books, Inc., 1958.

"Children Bring Their Families to School," *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.

Bossard, James H. S., "Family Culture and the Child," *The Sociology of Child Development*. New York: Harper & Brothers, 1954, pp. 119-39.

———, "Family Rituals and Child Development," *ibid.*, pp. 290-314.

Freud, Anna, *Psychoanalysis for Teachers and Parents*. New York: Emerson Books, Inc., 1954, pp. 11-63.

McClelland, D., A. L. Baldwin, U. Bronfenbrenner, and F. Strodbeck, *Talent and Society*. Princeton, N. J.: D. Van Nostrand Company, Inc., 1958, pp. 135-94.

Taba, Hilda, Elizabeth Brady, and John Robinson, "Family" (Chap. 2) and "Community" (Chap. 3), *Elementary Curriculum in Intergroup Relations*. Washington, D. C.: American Council on Education, 1950, pp. 29-62.

Wolfenstein, Martha, and Margaret Mead, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955.

MATERIALS ON PEER GROUPS

"Children Teach Each Other," Chap. 3, *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.

Havighurst, Robert, and Bernice Neugarten, *Society and Education*. Boston: Allyn and Bacon, Inc., 1957.

Bossard, "The Role of Peer Groups," *op. cit.*

MATERIALS ON SOCIAL CLASS AND SCHOOL CURRICULUM

Do we have a class structure?

Barker, Roger G., "There is No Class Bias in Our School," *Progressive Education*, XXVII (February, 1950), pp. 107-10.

Hand, Harold, *Principal Findings of the 1947-1948 Basic Studies*. Illinois Secondary School Curriculum Program, Bulletin No. 2, pp. 12-15.

Hollingshead, August, *Elmtown's Youth*. New York: John Wiley & Sons, Inc., 1949, pp. 168-72.

Warner, W. Lloyd, *American Life: Dream and Reality*. Chicago: University of Chicago Press, 1953, pp. 55-60.

- , Marchia Meeker, and Kenneth Eells, *Social Class in America*. Chicago: Science Research Associates, 1949.
- , Robert Havighurst, and Martin Loeb, *Who Shall Be Educated*. New York: Harper & Brothers, 1944.

What is the effect of class membership on staying in school?

- Davis, Allison, *Social Class Influences on Learning*. Cambridge, Mass.: Harvard University Press, 1948.
- Mulligan, Raymond, "Social Mobility and Higher Education," *Journal of Educational Psychology*, April, 1952, pp. 476-87.
- Warner, et al., *Democracy in Jonesville*. New York: Harper & Brothers, 1949, pp. 205-06.

What is the effect of social class membership on personality?

- Foote, Nelson N., and Leonard S. Cottrell, *Identity and Interpersonal Competence. A New Direction in Family Research*. Chicago: University of Chicago Press, 1955, pp. 1-94.
- Maccoby, Eleanor E., Patricia Gibbs, et al., "Methods of Child-Rearing in Two Social Classes," in Martin, W. E. and Celia Stendler, *Readings in Child Development*. New York: Harcourt, Brace and Company, Inc., 1954, pp. 380-96.
- White House Conference Report, 1950. *A Healthy Personality for Every Child*. Raleigh, N. C.: Health Publications Institute, 1951, pp. 1-52.

How does the teacher's socioeconomic origin affect curriculum?

- Becker, H. S., "The Career of the Chicago Public School Teacher," *American Journal of Sociology*, LVII (1952), pp. 57, 470-77.
- Jersid, Arthur, *When Teachers Face Themselves*. New York: Bureau of Publications, Teachers' College, Columbia University, 1955.
- Rettig, S., and Benjamin Pasamanick, "Status and Job Satisfaction of Public School Teachers," *School and Society*, XXCVIII (March 14, 1959), pp. 113-16.
- Sims, V. M., "Social Class Affiliation of a Group of Public School Teachers," *School Review*, Vol. XLIX, No. 6 (1951), pp. 59, 331-38.
- Warner, *American Life: Dream and Reality*, pp. 176-80.

Do children recognize class differences?

- Stendler, Celia, *Children of Brassstown*. Urbana, Illinois: Bureau of Educational Research and Service, 1949, pp. 90-95.

Can the school be an instrument for social mobility?

- Havighurst and Neugarten, "The School in the Social Structure," *Society and Education*.
- Warner, W. Lloyd, Robert Havighurst, and Martin Loeb, *Who Shall Be Educated*, New York: Harper & Brothers, 1944, pp. 141-48, 157-58.

BIBLIOGRAPHY

MATERIALS ON FAMILY AND NEIGHBORHOOD CULTURE

- What is the relationship of the school to family life in the neighborhood?*
- Ackerman, Nathan, *Psychodynamics of Family Life*. New York: Basic Books, Inc., 1958.
- "Children Bring Their Families to School," *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.
- Bossard, James H. S., "Family Culture and the Child," *The Sociology of Child Development*. New York: Harper & Brothers, 1954, pp. 119-39.
- , "Family Rituals and Child Development," *ibid.*, pp. 290-314.
- Freud, Anna, *Psychoanalysis for Teachers and Parents*. New York: Emerson Books, Inc., 1954, pp. 11-63.
- McClelland, D., A. L. Baldwin, U. Bronfenbrenner, and F. Strodtbeck, *Talent and Society*. Princeton, N. J.: D. Van Nostrand Company, Inc., 1958, pp. 135-94.
- Taba, Hilda, Elizabeth Brady, and John Robinson, "Family" (Chap. 2) and "Community" (Chap. 3), *Elementary Curriculum in Intergroup Relations*. Washington, D. C.: American Council on Education, 1950, pp. 29-62.
- Wolfenstein, Martha, and Margaret Mead, *Childhood in Contemporary Cultures*. Chicago: University of Chicago Press, 1955.

MATERIALS ON PEER GROUPS

- "Children Teach Each Other," Chap. 3, *Fostering Mental Health in Our Schools*. Association for Supervisors and Curriculum Development, Yearbook, 1950.
- Havighurst, Robert, and Bernice Neugarten, *Society and Education*. Boston: Allyn and Bacon, Inc., 1957.
- Bossard, "The Role of Peer Groups," *op. cit.*

MATERIALS ON SOCIAL CLASS AND SCHOOL CURRICULUM

Do we have a class structure?

- Barker, Roger G., "There is No Class Bias in Our School," *Progressive Education*, XXVII (February, 1950), pp. 107-10.
- Hand, Harold, *Principal Findings of the 1947-1948 Basic Studies*. Illinois Secondary School Curriculum Program, Bulletin No. 2, pp. 12-15.
- Hollingshead, August, *Elmtown's Youth*. New York: John Wiley & Sons, Inc., 1949, pp. 168-72.
- Warner, W. Lloyd, *American Life: Dream and Reality*. Chicago: University of Chicago Press, 1953, pp. 55-60.

- , Marchia Meeker, and Kenneth Eells, *Social Class in America*. Chicago: Science Research Associates, 1949.
- , Robert Havighurst, and Martin Loeb, *Who Shall Be Educated*. New York: Harper & Brothers, 1944.

What is the effect of class membership on staying in school?

- Davis, Allison, *Social Class Influences on Learning*. Cambridge, Mass.: Harvard University Press, 1948.
- Mulligan, Raymond, "Social Mobility and Higher Education," *Journal of Educational Psychology*, April, 1952, pp. 476-87.
- Warner, et al., *Democracy in Jonesville*. New York: Harper & Brothers, 1949, pp. 205-06.

What is the effect of social class membership on personality?

- Footc, Nelson N., and Leonard S. Cottrell, *Identity and Interpersonal Competence. A New Direction in Family Research*. Chicago: University of Chicago Press, 1955, pp. 1-94.
- Maccoby, Elcanor E., Patricia Gibbs, et al., "Methods of Child-Rearing in Two Social Classes," in Martin, W. E. and Celia Stendler, *Readings in Child Development*. New York: Harcourt, Brace and Company, Inc., 1954, pp. 380-96.
- White House Conference Report, 1950. *A Healthy Personality for Every Child*, Raleigh, N. C.: Health Publications Institute, 1951, pp. 1-52.

How does the teacher's socioeconomic origin affect curriculum?

- Becker, H. S., "The Career of the Chicago Public School Teacher," *American Journal of Sociology*, LVII (1952), pp. 57, 470-77.
- Jersid, Arthur, *When Teachers Face Themselves*. New York: Bureau of Publications, Teachers' College, Columbia University, 1955.
- Rettig, S., and Benjamin Pasamanick, "Status and Job Satisfaction of Public School Teachers," *School and Society*, XXCVIII (March 14, 1959), pp. 113-16.
- Sims, V. M., "Social Class Affiliation of a Group of Public School Teachers," *School Review*, Vol. XLIX, No. 6 (1951), pp. 59, 331-38.
- Warner, *American Life: Dream and Reality*, pp. 176-80.

Do children recognize class differences?

- Stendler, Celia, *Children of Branstown*. Urbana, Illinois: Bureau of Educational Research and Service, 1949, pp. 90-95.

Can the school be an instrument for social mobility?

- Havighurst and Neugarten, "The School in the Social Structure," *Society and Education*.
- Warner, W. Lloyd, Robert Havighurst, and Martin Loeb, "Who Shall Be Educated." New York: Harper & Brothers, 1944, pp. 141-48, 157-58.

5. METHODS AND VALUES OF A FREE SOCIETY

A *education which does not begin by evoking initiative and end by encouraging it must be wrong. For its whole aim is the production of active wisdom.* WHITEHEAD.*

A free society is one in which the element of choice in a large range of decisions belongs to the individual. It is also one in which the responsibility for respecting and protecting the rights of others rests preponderantly on the individual. The discipline that this freedom requires is developed within the individual in the course of his growth from immaturity to maturity. It is the mark of maturity in free men that they can exercise this discipline in regard to their own impulses and purposes. It is the mark of a free society that its institutions and customs encourage this kind of freedom

MATERIALS ON TEACHER'S ROLE IN RELATION TO SOCIAL CLASS DIFFERENCES

- Baldwin, Alfred, "Parent Behavior," *Behavior and Development in Childhood*. New York: The Dryden Press, Inc., 1955, pp. 482-520.
- Davis, A., "Education for the Conservation of Human Resources," *Progressive Education*, XXVII (May, 1950), pp. 221-24.
- , "Status Systems and the Socialization of the Child," *American Sociological Review*, XLVIII (June, 1941), pp. 345-54.
- Eckert, Ruth E., and Thomas A. Marshall, *When Youth Leaves School*. New York: McGraw-Hill Book Company, Inc., 1939.
- Gibson, R. E., and Aubrey Haan, "School Participation in the Organization and Work of a Coordinating Council," *National Elementary Principal*, July, 1942, pp. 382-86.
- Honzik, M. P., J. W. Macfarlane, and L. Allen, "The Stability of Mental Test Performance Between Two and Eighteen Years," *Journal of Experimental Education*, XVII (1948), 309-24.
- Hymes, James, "Parents and Schools," *Effective Home-School Relations*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1953, pp. 35-63.
- Lane, Howard, and Mary Beauchamp, "The Role of the Adult in the Child's Life," *Human Relations in Teaching*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955, pp. 178-200.
- Taba, *School Culture*. Washington, D. C.: American Council on Education, 1957.

MATERIALS ON LEARNING AND SCHOOL CULTURE, AND
CHANGING THE SCHOOL CULTURE

- Lewin, Kurt, *Resolving Social Conflicts*. New York: Harper and Brothers, 1948, p. 230.
- Robinson, John T., "The School Culture and Educational Planning," *Journal of Educational Sociology*, XXII (May, 1948).
- "School Culture and Group Life," *Journal of Educational Sociology*, (May, 1948).
- Taba, et al., "Group Life in School," in *Intergroup Education in the Public Schools*. Washington, D. C.: American Council on Education, 1952, pp. 124-85.
- Taba, *School Culture*. Washington, D. C.: American Council on Education, 1956.

MATERIALS ON ADAPTING CURRICULUM TO THE NEIGHBORHOOD

- Brookover, Wilbur B., "How Schools Relate to the Community," *A Sociology of Education*. New York: American Book Company, 1955, pp. 381-85.
- Kubie, Lawrence, *Neurotic Distortions of the Creative Process*. Lawrence, Kansas: University of Kansas Press, 1958, pp. 20-21.

- Pierce, Truman, *et al.*, "Community Forces Form Varied Patterns," *Community Leadership for Public Education*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955, pp. 141-65.
- Taba, Robinson, and Brady, "Curriculum Development," *Intergroup Education in Public Schools*. Washington, D. C.: American Council on Education, 1952, pp. 69-123.
- Taba, Robinson, and Brady, "Community," *Elementary Curriculum in Intergroup Relations*. Washington, D. C.: American Council on Education, pp. 63-99.

FOOTNOTES

1. McClelland, David, *et al.*, *Talent and Society* (Princeton, N. J.: D. Van Nostrand Company, Inc., 1958), p. 144.
2. Takeuchi, Roy, and Laurence Wells, "Families and Their Effect on Learning" (Field Study, San Francisco State College, 1960).
3. Havighurst, Robert, and Bernice Neugarten, *School and Society* (Boston: Allyn and Bacon, Inc., 1957), p. 53.
4. Maccoby, Eleanor, Patricia Gibbs, *et al.*, "Methods of Child-Rearing in Two Social Classes," *Readings in Child Development*, ed. William E. Martin and Celia Burns Stendler (New York: Harcourt, Brace and Company, Inc., 1954), p. 396.
5. White House Conference Report, 1950, *A Healthy Personality for Every Child* (Raleigh, N. C.: Health Publications Institute, 1950), p. 47.
6. Foote, Nelson N., and Leonard S. Cottrell, *Identity and Interpersonal Competence* (Chicago: University of Chicago Press, 1955), pp. 1-94.
- 6a. Carlson, Richard O., *Variation and Myth in the Social Status of Teachers*. (Research study to be published, Administrative Service Center, University of Pittsburgh.)
7. Honzik, M. P., J. W. Macfarlane, and L. Allen, "The Stability of Mental Test Performance Between Two and Eighteen Years," *Journal of Experimental Education*, XVII (1948), pp. 309-324.

5. METHODS AND VALUES OF A FREE SOCIETY

An education which does not begin by evoking initiative and end by encouraging it must be wrong. For its whole aim is the production of active wisdom. WHITEHEAD.*

A free society is one in which the element of choice in a large range of decisions belongs to the individual. It is also one in which the responsibility for respecting and protecting the rights of others rests preponderantly on the individual. The discipline that this freedom requires is developed within the individual in the course of his growth from immaturity to maturity. It is the mark of maturity in free men that they can exercise this discipline in regard to their own impulses and purposes. It is the mark of a free society that its institutions and customs encourage this kind of freedom and this kind of discipline. It is no simple task.

When the individual has this responsibility, the ethical basis of the society must be pervasive, investing all significant actions, customs, and institutions. A free society is preeminently a moral

society, its morality being based upon general welfare of individuals. A group is more moral the more it preserves rather than extinguishes the characteristics of the individual. The educational task in a free society is to help children grow into these values, these ethical concepts.

The theory upon which this curriculum text is based involves the hypothesis that the ability of adults to live with this kind of freedom depends heavily upon basic relationships they experience as young children in their families. Further, it is hypothesized that the effectiveness of the school in helping children mature toward freedom depends upon interpersonal relationships in school that emphasize "flexibility, freedom to learn through experience, freedom to change with circumstances, response to reasonable argument and admonition, response to appeals to the emotions, freedom to respond appropriately to reward and punishment, and freedom to stop when sated."¹ A free society depends on personality formation that makes it possible for the individual to accept and act responsibly in relation to freedom.

However this is not enough. In the socializing experiences of children at home and at school the *methods* appropriate to a society of free men must be learned. These methods are the means used to secure the kind of interrelationships involved in a free society. They do not rise naturally and inevitably from the need. They have been hammered out over a long period of time as men worked toward concretization of a series of ideals. The learning required for participation in a free society is hence both emotional and cognitive. Methods are part of the *content* of a curriculum for free men. In terms of what would serve people best, institutional arrangements in any society tend to lag behind. A free society is dependent upon institutional arrangements that minimize those problems of self preservation which erode the capacity for affectionate and cooperative relationships. Hence, in a free society the worth of institutions is judged by their contribution to general welfare in the broad sense or by the extent to which they contribute to a free environment. When they fail to do this in a free society, they are changed. In a period of rapid technical change, with resultant strains and dislocations in institutions, the preservation of a free society is *always in question and must be fought for again and again. The methods* of a free society whereby communication, involvement, and shared decision are implemented become essential aspects of individuals' skills, particularly in these times.

PERSONALITY BASIS OF A FREE SOCIETY

In the studies of Else Frenkel-Brunswik² of adolescents, those who come from families that are characterized by threatening and traumatic forms of discipline and by clearly defined roles of dominance and submission consider the major function of figures of authority to be that of controlling and keeping in line. Ideal parents, for example, are described by these adolescents in negative terms as those who abstain from severe corporal punishment. Children from equalitarian homes described the perfect father as companionable, relaxed, and having a kind, loving, and gentle disposition.

Children from authoritarian homes were oriented predominantly toward external and conventional values, with condemnation of all who do not conform to the rigid patterns of behavior envisaged. Equalitarian children were more concerned with internalized values and intrinsic ethical standards.

In the authoritarian home there can be only a superficial identification with the parents. Because of the lack of a genuine identification with parents, the fearfully conforming child does not make the important developmental step from mere social anxiety to real conscience. In a free society, and particularly in a free, heterogeneous society such as ours, an internalized conscience in which the individual is the focus but remains related to social norms is of crucial importance.

In the authoritarian home, personality formation is often affected by the feelings parents have about threats to their own social and economic status. They may try to counteract their feelings of marginality by an un verbalized need for importance.³ Children are compelled to obey the rules which they cannot really internalize. This tends to interfere with the evolution of a clear sense of identity. The lack of a sense of identity in turn makes the individual confused and susceptible to group pressures. These pressures may be in ethical directions or contrary to them; the danger lies in the individual's ineffectiveness as a force in a free society.

Frenkel-Brunswik's study⁴ of prejudiced children finds that they have families in which duties and obligations are given preference over free-flowing affection. The children tend to be exclusively oriented toward conventional values. The sex roles are also highly conventionalized. There is, as with authoritarian families generally, an intolerance for ambiguity in human interaction. Unprejudiced children stress values such as like-

ability and the real internalization of adult values. They tend to react more in terms of intrinsic ethical standards, not conventional ones.

SOCIETY AND FREEDOM

The personality that is dangerous to a free society is not produced alone by the family although this may be the determining factor since, in American society, there are elements that reinforce either the authoritarian personality or tolerance for ambiguity. *It seems evident that the individual starting with certain basic values arising from his family life will preempt those values in the culture that make him feel most comfortable.* In the case of the authoritarian, he finds excessive conformity, surrender to authority, and other-directedness in the extreme to be more comfortable. It is certainly true that although American culture supports tolerance for ambiguity, there are also forces in the culture that reinforce authoritarian personalities.

Some of the cultural factors that reinforce authoritarian personality patterns arise from the emphasis in our culture upon success and power, upon proving that one "can measure up" as evidenced, for example, by establishing social distance between self and others then regarded as being in a lower social class. Frenkel-Brunswik⁸ found highly ethnocentric men, for instance, to conceive of themselves as active, determined, energetic, competitive, rough, successful. They rejected softness and passivity in themselves and saw women as having these characteristics.

The anonymity of the individual in the urban setting and the big industrial organization also reinforces the authoritarian personality, as does the presence of a pervasive, powerful propaganda machine that can be used to manipulate public opinion. The tendency noted by Riesman toward other-directedness, toward externalization, and the avoidance of introspection and contemplation results in insensitivity and stereotyped approaches to human relations.

There are, doubtless, more reinforcers of a liberal personality in American culture. Among these can be included the emphasis on individualism, the reasonably equalitarian relationships between children and parents and pupils and teachers, the melting pot idea, the increase in choices offered by technological progress, opposition generally to over-systematization, readiness to criticize government, the democratic ideal, and the rising level of education.

The important consideration is that the personality structure that is

developed by early home and school experiences becomes the *selector*. It becomes the *selector* of the values, among the many offered by a complex society, by which the individual will live. It becomes the *selector*, the determinant of choices to be made among alternative behaviors. This is the *inner* basis of decision or choice. The importance of this concept for education lies in the possibility of school's modifying children's basic personality functioning through experiences that have significant emotional as well as cognitive meaning. *It is in this re-educative process involving self-knowledge that the school can make a significant difference in the ability of individuals to live in and promote a free society.*

BEHAVIOR IN A FREE SOCIETY

Opposition and cooperation

Behavior of individuals in a free society differs from that in other kinds of societies. The internalized conscience, the psychological prerequisite to the inner-directed man of Riesman allows the individual to *cooperate* with others and also to live in *opposition* to others. It is the latter capacity that becomes eroded by demands for conformity, togetherness, and good-fellowism. A free society requires that individual cooperation on significant matters be prompted by individual conviction and that disagreement and opposition to others also be directed by the results of scientific inquiry and by ethics. This puts difficult demands on individuals; it requires that those with power withhold its employment to coerce or force conformity or agreement, and that those who have no resources of influence dare to sustain their opposition to important matters. In a highly interdependent and complicated urban-industrial society this is a difficult proposition. For safety individuals form groups that can oppose other groups and within which they can find agreement. In such an environment the individual seldom "feels" personally engaged in action; he sends representatives into action, and the personal sense of democratic participation and opposition may be lost.

Society and personality

The kinds of personalities that can stand on ethical principle and that can sustain opposition to others on these principles are formed at home and

at school, and to a lesser degree in in the neighborhood. "Genuine ethical behavior involves a comprehension of the issues involved, a facing of all uncertainties, conflicts, and one's own guilt, and a readiness to accept the anguish involved in such open confrontation."⁶ The kind of principled behavior needed in a free society is not so difficult to envisage. It would be an oversimplification, however, to assume that the only two influences involved are home and school. A society can contain forces that either negate home and school, or can force them to change the kinds of human relationships within. A Hitler can create a national environment in which individuals' behaviors are based on irrational notions and fears. The climate of institutions other than home and school has to support ethical principle. If industry, business, and labor organization and agencies of government fail to provide the conditions that promote ethical conduct on the part of individuals there cannot be a free society. Individuals reared in nonauthoritarian homes may find themselves at a disadvantage in an institutional world that wants conformity, not democratic opposition, and that prefers acquiescence over responsible criticism. Nevertheless, the hope for a continuing free society rests upon homes and schools that can produce the kinds of individuals whose basic personality functioning, as involved in decision and choice, will select and build free institutions in preference to those in which the ethics of free men cannot survive.

Freedom and cultural relativism

Perhaps no point of view has been as disturbing to those who wanted the schools to concern themselves with ethical principle and moral conduct as the position of some of the cultural relativists. During the last two decades or more college students in education have tended to hold the position that any set of values or ethical standards, was as good as any other so long as the society in which they existed was in agreement about them. This fallacious position made it difficult for students of education to think through their responsibility for teaching ethical principles. Obviously some positive, healthy personalities in teaching can communicate a sense of direction and value to children by the way they function as teachers in a classroom or on the playground. Children identify with these teachers and take on their values. The position that any set of values applied to human relationships is as good for mankind as any others is tenable only by those who have no

faith in the scientific study of the nature of man. For those who believe that the scientific knowledge of the nature of man, already rapidly expanding, will be further extended, it is apparent that ultimately ethics will rest upon this broadened base of knowledge. A simple-minded cultural relativism must be replaced by improved understanding of the conditions favoring creative, flexible, healthy human interaction. Hence the growing science of man is the proper basis of an ethical system. This is the meaning of the current mental health movement in this society. The intuitive and empirical ideals that have sprung from religion and from the struggles of men to escape tyranny of many kinds and by which we live, in the main, can be checked against a growing field of more exact knowledge.

VALUES OF A FREE SOCIETY

The individual

The *values* of a free society center about the fate of the individual. The *methods* of a free society are concerned with *how* individuals working with others can secure these values for themselves under a variety of social, economic, and demographic conditions. Many kinds of societies survive. In a free society, the *quality* of life of individuals is the criterion against which social interactions are measured. Further, in a free society, the *how's*, that is, the *methods*, are indistinguishable as means or ends. The well-being and respect for the individual are as much involved in *how* he shares in decisions as they may be in the effects or ends sought. A benevolent despotism still deprives the individual of respect however kind the ends sought may seem. In the nature of man as we understand it now, the sense of autonomy which is necessary for further growth can only be developed and sustained when the individual is accorded the right to make choices himself. Similarly our knowledge of the nature of man suggests that his flexibility and creativity can be sustained only when the human relationships in which he is involved afford him the emotional support of significant others and the potential emotional support of any others with whom he may become involved. That is, the climate of a free society assures the individual that his trust in rational behavior and in personal autonomy is justified.

General welfare

A free society recognizes that the respect for the individual can be sustained only if these conditions for optimum human development are general. It is recognized that when these conditions are the perquisites of only a few, they cannot permanently be sustained even for these. The dynamics of human beings in such a situation result in feelings of deprivation and distrust on the part of those denied, and potential sadism and guilt on the part of those who find themselves in favored positions. Whether this is compensated for by these few through "Lady Bountiful" mechanisms or submerged in the wilful sadism of the tyrant, a society cannot be indefinitely sustained with this denial of the developmental needs of individuals.

The idea of general welfare is hence not only a political principle, it is a necessity for the mental health of individuals in a free society.

METHODS OF A FREE SOCIETY

The ways in which people can work together to accomplish the tasks that need to be done by a society are the *methods* of that society. In some societies these methods of getting the tasks done may be as simple as a rule by fiat by an emperor; in others it may be by a vote of the well-to-do or the landowners. In others it may mean discussion and voting. The methods of a society are indistinguishable from the ends it seeks, in that, in the case of a free society, the relations between men seeking to perform a task are involved with their concepts of respect and worth about each other.

Nevertheless in order to secure this respect for individuals, to elicit the potential in everyone, and to increase both the accuracy and acceptability of decisions, we have devised over centuries ways of working together that help to insure this climate for every individual. Because these are methods that protect democratic climate for all, we want to invest them with value for everyone in the society.

Voting

Children learn about voting early and, like taking turns, it serves to develop a sense of trust in them that in the sibling rivalry situation of the classroom a fair way of making decisions will be used.

Sharing decisions

There are of course many ways of sharing decisions, but the problem of investing shared decisions with favorable emotional tone has to be met at first in face to face groups in the classroom. Again the expectation that the adult will abide by decisions made by the group must be met and serves to endow shared decisions with value. Decisions that are shared should be endowed with a sense of intimacy, of a degree of self-transcendence. This can be accomplished when children are praised for their accomplishment and when those who disagree but abide by the decision are made to feel that they have done an important thing.

Test of voting and shared decisions

It is obvious to everyone that voting a decision does not make it a democratic decision or one that will further a society of free men. Voting is a means of finding out majority opinion, but majority opinion can destroy a free society as well as create it. The test of these methods is *what was the effect of them on people?* This is a test that must be required of children again and again. A majority decision that takes away rights of a minority, or brutalizes some human beings at the expense of others, does not meet the test of ethics for a free society.

Scientific method

The scientific method is the essential part of democratic methods in a free society. In the test of the effect of action, however determined, whether by voting, shared decisions, or consensus, the scientific method needs to be seen as the way to determine objectively what the effect of action is upon the welfare of individuals. Children can be led to see how scientific methods can protect the rights of individuals, how facts, not individual opinion, are necessary to protect them. The scientific methods or problem solving techniques must also be invested with value, that is, with favorable emotional tone. Knowing how to find out something one does not know is itself a mechanism whereby a sense of trust, autonomy, and initiative can be sustained.

Methods of consensus

The methods of getting a consensus involve several of those already mentioned. Getting a consensus often means deferring decision until individuals

have had time to reflect and to search for information. It is a slower and more basic process than voting, although for many issues voting is faster and may be satisfactory. Learning to work for consensus is a complicated process. It involves the kind of respect for others' opinions that makes one willing to allow others to argue their position. It means binding tension about "getting something done" until facts and feelings are developed and resolved. The method of consensus ought not be looked upon as simply the art of compromise. Decisions should be deferred until there is as much factual basis for consensus as the time and resources of the group permit.

Discussion

Discussion is, of course, part of other methods, but for certain purposes it can be looked at separately. To be of value discussion must include examining many viewpoints. It should be a cooperative effort to arrive at the facts and to draw conclusions about some problem or topic. The contributions of many individuals and preferably all of a group are needed. A discussion that comes *after* a search for facts will teach children the use of data in decision making. Of course, preliminary discussion may reveal the need for information and has its own kind of value.

Panel discussion

In a panel type of discussion, the group decides the important things it wants to know about a topic. They choose a chairman and five or six other pupils for the panel. After a preparation period, the chairman leads a discussion of each question followed by audience participation. The chairman of the panel sums up the main ideas and a written summary is prepared for everyone to study and evaluate later.

Buzz sessions

Breaking an audience or class into smaller groups is a method intended to secure wider participation, a wider sharing of decisions and a better covering of the ideas available in the group. The teacher's role is to help the procedure work, not to control the decisions. He works to show groups how to think but not what to think.

Committee work

The use of committee work in the classroom has many implications for a democratic school. It is also a rock on which many new teachers founder. It gives the teacher an opportunity to individualize work, to increase participation, and to help children learn how to work together. Before a class can work effectively in committees, it must have opportunities to practice democratic procedures of various kinds. If the class has had no previous committee experience, the teacher may serve as chairman and illustrate how the chairman should function. A group made up of children who show some indication of being able to work together after preliminary instruction may start the work and the rest of the class may study and discuss the procedures they use. Out of discussion and observation some standards may be set up for committee work. Gradually some suggestions for what makes a good committee member, a good committee chairman, a good committee, and a good committee report can be developed and put on a chart for continuing guidance. For example, a good committee chairman understands the committee assignment, uses ideas from all members, keeps a record of committee activity, works from group consensus, and reflects problems back into the group as a whole.

Parliamentary procedure

It is extremely important that children at appropriate ages develop rules that are to govern decision making by larger groups. This background to parliamentary procedure is essential if rules are not to be abused. The questions of importance back of the rules are: (1) How can each individual be given a chance to express an opinion? (2) How can all the information needed be considered by the group? (3) How can the group's wishes be accurately determined? (4) How can the welfare of the individual be protected from the effects of large group decision? Parliamentary procedure should develop out of classroom rules for conducting school business.

Student government

The various methods of a free society are involved in operating student government. Added to those mentioned is the problem of selecting others to represent the group. Here the questions of qualifications and responsi-

bility arise and should be dealt with repeatedly in the microcosm of, first, the classroom, then the school, and hopefully the society itself. Most student governments have been poorly organized. The basic problem is time. The school, operating under some feeling that this will not be thought important enough by the community, does not give enough time and personnel to the development of this training tool for a free society. As a result, representatives are not required to report adequately to the group; nor is the group given time to think through its problem before sending a representative to the student government. It is unfortunate that most of the *methods* of a free society are given such short shrift in the educational process.

Leadership in large groups

A part of the hazard of urban concentrations of population lies in the anonymity of individuals and their inaccessibility to needed communication. In a free society such as ours methods must be found to work with large groups as leaders, subleaders and group members. Although this complex problem cannot be treated fully here, it may suffice to indicate the two broad approaches that can be used. The details can be found in the literature to which reference is made in the bibliography. Broadly, leadership in large groups involve (1) finding ways to break down the group, securing its participation and contributions, and then bringing total thinking back to the group; (2) ensuring that the group is as fully informed before assembling as possible; this may involve printed material, television, radio, questionnaires, opinionaires, and other means of both informing and querying.

Finding-information skills

The use of information and research is essential to a free society. Often the skills needed are not taught from this point of view if they are taught at all. Among the skills needed are those of appraising materials: (1) distinguishing sources and secondary accounts, (2) judging the reliability of the author, (3) separating facts from opinions, (4) noting recency of materials and its effect on accuracy. Using indexes, dictionaries, encyclopedias, graphs, charts, tables, tables of contents, learning aids, maps, and pictures is a necessary skill for the individual who must make up his own

mind on the basis of facts. Knowing where to find information, the library cataloguc, yearbooks, periodicals, guides, newspaper files, atlases, records, directories, museums, or agencies helps the individual feel free of uninformed opinion.

Critical thinking

Critical thinking involves the application of scientific methods either to a problem or to judging a solution to one. That critical thinking is not given its share of time is due to the feeling of pressure under which schools tend to operate. Whitehead's concern that we teach less more thoroughly is sound in this regard. It takes time to allow children to reason, to evaluate, to construct. Some of this requires more isolation than the modern school often affords. In any case it requires more time and more thoughtfulness than the school dares to give in most situations.

The various aspects of critical thinking have been isolated by a number of writers. Rath⁷ has listed fourteen operations in teaching critical thinking. These are:

1. Clarifying through reflecting
2. Clarifying through definition and illustration
3. Clarifying through presentation of apparent inconsistency
4. Clarifying through comparison of likeness and difference
5. Clarifying through quesuoning of underlying assumptions
6. Clarifying through anticipation of consequences
7. Clarifying through questioning of meanings
8. Clarifying through locating points of difficulty
9. Clarifying through inquiry into who should believe
10. Clarifying through relating feelings to behavior
11. Clarifying through summarizing a series of steps
12. Clarifying through raising questions of purpose
13. Clarifying through quest for origins of expressions
14. Clarifying through raising questions of value

Obviously, critical or scientific thinking permeates school work; but the resources and the time have often been lacking.

Human relations

This is by no means a method, but the understanding of the dynamics of human behavior is essential if a free society is to work. Friendships are as

important to children as grammar and mathematics. The blocks to decisions often lie in the inability of individuals in a group to understand the dynamics of it. Getting insight into the role played by oneself and others, understanding the motivations of people, learning to accept differences of opinion, learning to detach oneself from one's contribution or idea, these are all skills in working with others that may further the solutions to the problems of democratic living.

Resisting group pressures

It is difficult in a time of pleasant conformity to get individuals to resist pressures from the groups to which they belong and with which they work. Yet this is essential. By careful planning and work the teacher can encourage individuals to stand on their own feet, to express their own opinions, and find their own bases for believing what they do. This will need consistent development throughout the public school. The climate can be created by the teacher wherein the individual feels secure and rewarded for this independence. The ability to resist such pressures depends partly on knowing how to find information, how to organize it and how to present it without undue antagonism or apprehension.

Leadership through indirect channels

Many of the ideas we want to get before others can be communicated only through printed materials, the radio, movies, art, or television. Learning to use these means is important even in the elementary school. The school paper, the art poster, and other means need to be used to express ideas children want others to consider. The ethics of what is written, drawn, or said can be worked with throughout children's school experience.

Evaluation

The skills of evaluating what one has done are essential in a free society. The expectation that this will be done and is part of the process of living in a free society can be created in the public schools through practice and discussion. The evaluation that comes after a unit of work, after a field trip, after a plan has been tried, is as important in some ways as the actual content with which the experience may have been concerned.

METHODS AND VALUES OF A FREE SOCIETY

These are most of the methods on which a free society is dependent for communicating, securing participation, sharing decision, and developing that respect for the individual which makes up the key value of a democratic society. These methods need to be taught as systematically and planfully as any other part of the curriculum. A broad kind of scope and sequence can be worked out and, in particular, methods of determining growth can be regularly used along with measures of achievement of other kinds.

ETHICS OF A FREE SOCIETY

The ethics of a free society such as ours is based upon the general welfare principle and this in turn upon the developing science of man. This is to say that ethical behavior is broadly interpreted as that which serves to protect and further the development of each individual. The idea of general welfare is in a way a misleading one unless added to it are these two qualifications: (1) there is really no welfare that can be called *general* except as it pays attention to the welfare of each individual making up the society; and (2) the term general welfare carries with it the implication that though there may be many compromises in setting up the arrangements in a society, there is basically a fair distribution of goods, services, psychological health, security, and so forth, among all individuals. Behind the broadened general welfare principle the basic information derived from the study of the science of man is needed to interpret what is and what is not ethical, what does not make for creativity and fulfillment and what does.

Experience and ethics

Ethics behind moral conduct must have an experiential basis for children. In the day-by-day living situation of the classroom and playground there can be many opportunities to capitalize on incidents that occur. Discussion of these and interpretation of the meaning of conduct in terms of its effect on others can gradually build a sense of ethical behavior. If this is consistently done over the period of the elementary school, the ethical problems of adolescence can become much easier. A feeling of confidence about

one's standards, a feeling that he really knows what to do, is an important part of a child's identity. This can only be made a part of personality if it rises from situations that are real and important for children.

Problem of sequence

The problem of sequence is, and perhaps will continue to be, one to which only tentative answers can be given. In the Kentucky Movement as reported by Hartford,⁸ the sequence arises from "... what life and the environment 'turns up'; actual 'problems' may be central to the learning experience of pupils." The curriculum problem is, therefore, one of flexibility and sensitivity to the living situation. Each school, however, should approach the problem as a total faculty as well as through individual teachers. There should be a careful collection of situations that arise in which ethics can be learned, grade by grade. Although this will not furnish us with any rigid pattern of instruction, it will enable us to prepare ourselves and to gather materials and learning experiences that will help children. The sibling rivalry situation, which occurs throughout the school, for example, is most obvious quite early in the primary grades. If children are helped to understand their feelings, and helped to a sense of separateness and independence, one of the emotional problems that later leads to inimical human interaction can be resolved. Broadly, the sequence has to arise from the succession of problems involving conscience (values) that children can really be concerned about in their daily school life.

Using previous studies

Although prior studies and writing have utility, the job of educating for ethical behavior is one that needs to be thought through by each staff. This is an area in which there is much confusion, prejudice, guilt, and anxiety. Tied in, as it has been in the past, with the great religious movements, it inherits some of its problems from the violent emotions surrounding religious controversy. The school need not and should not concern itself with these controversies, except as history. Conscience, ethical behavior, is actually developed out of day-by-day evaluated experience and by the identification processes with the significant adults in children's lives. Those who would like to assign to supernatural forces or to the supposed internal goodness of the child the development of conscience and ethical behavior are simply surrendering the child to forces of chance or to the happy ac-

cident of contact with other human beings who care enough to devote energy and time for this purpose.

The studies that have been made, such as the National Education Association's Educational Policies Commission report of 1951, might be used for suggestions, for lists of values thought to be common in our society, and sometimes for suggestions as to method. The ten values suggested by the above report, for example, include:

Human Personality—The Basic Value
 Moral Responsibility
 Institutions as the Servants of Man
 Common Consent, Voluntary Cooperations
 Devotion to Truth
 Respect for Excellence
 Moral Equality
 Brotherhood
 Pursuit of Happiness
 Spiritual Enrichment

Such lists although of some general importance in a very broad sense have little direct utility in curriculum development. What is needed is more analyses of the daily living situations of various ages of children.

Teachers and ethics

So far as the school is concerned, the teacher is the key person in the development of behavior based on ethics. Many teachers appear to have some uncertainty about their role. Many of us who have firm moral beliefs about lying, stealing, cheating, malingering, destruction, and so forth, seem reluctant to convey these beliefs to children. A mixture of cultural relativism and worry about producing excessive guilt seems to prevent effective teacher action. The teacher is most effective when he shows strong feelings, disappointment, and concern in relation to specific acts of children so the child can make use of the teacher's moral attitude in developing his own. Piaget⁹ has pointed out that most of the moral rules the child learns to respect he receives from adults. He continues by indicating that children acquire feelings of moral obligation when they accept a command from someone they respect.

The teacher's role is fairly clear. If the teacher is clear as to the ethical behavior he stands for, and this should be subject to total faculty discussion, he should convey this to children in relation to situations in which they

arise. The teacher also plans for dramatization or role playing of situations that need emphasis, or that involve enough unconscious elements that can usefully be brought to the surface.

Peers and ethics

Although the adult is the prime mover and figure for identification, the peer group and the older children in a heterogeneous group are important conveyors of ethical behavior. Piaget, using the game of marbles, points out that the rules of the game are handed down from one generation to the other and preserved only by the respect held for them by individuals. Little boys beginning to play are trained gradually by older ones to respect the law. They wish wholeheartedly to acquire the virtue of using correctly the customary practices of the game, whereas the older ones have the power to change the rules.

The peer group exerts great pressure on its members to live by the rules of the group. The adult role is to help the individual and also the peer group develop their own ideas of ethical behavior. There is some tendency now to abandon peer groups to themselves entirely. This may even assume a kind of irresponsible shirking of adult roles. Terms such as the "teen-age cult" reflect this withdrawal of adult concern. It is as if some adults think, "Thank heaven they're old enough to get out of our hair!" The adult needs to keep feeding into the peer situation reinforcement of ethical behavior through support of rules, interpretation of the effect of group proposals, help with adult judgment about projects when needed, sharing of some kinds of activities.

There has been too much inclination to separate people into age-groups, less in the American than in the English culture, but a growing tendency to do so. Valuable associations between adults and children other than the parental one have been decreased with resultant loss in children's identification with other adults.

Evaluation and ethics

Certainly before evaluation can be made, there should be a school-wide formulation of objectives. The bulletin, *Developing Moral-Spiritual Values in the Schools*¹⁰ suggests the following guiding principles:

Objectives selected should be in agreement with the school's philosophy and democratic principles.

Objectives should be determined by all persons concerned.

Objectives need to be organized into a meaningful pattern with a clear definition acceptable to those using them.

The objectives or goals of a program for the development of the ethical behavior should be stated in terms of behavior.

Learning situations should be provided in which the students can be expected to show progress toward the objectives selected.

Care should be taken to select the proper instrument for securing the particular data desired.

It is then the job of the school staff to state the objectives in terms of specific pupil behavior. Those involved in this task should ask themselves: "What are some of the important things pupils will do when they have achieved growth toward this objective? How does their behavior differ from that of others who have not achieved such growth?"

Techniques for evaluating growth

Obviously the technique selected has to fit the behavior being measured. The best techniques probably include careful observation of behavior in a situation involving genuine problems of human relationships. In the evaluation of ethical behavior verbalized expressions are often unreliable; the influence of unconscious forces and the operation of defense mechanisms tend to obscure what is really going on. Anecdotal records based on observation, rating scales, check lists, pupils' writings, diaries, creative work, and projective techniques may all yield more reliable information than pencil and paper tests. Teachers who are skilled in talking to children can learn much from interviews; many teachers, of course, are not able to talk with children very successfully. At the end of this chapter a list of references on evaluation techniques can help the school think through the problem of evaluating ethical behavior.

Free society and ethical behavior

In this chapter the idea of a free society ultimately based upon the science of the nature of man has been proposed. It is also clear that the kind of behavior we call ethical is that which furthers each individual's creativity, and his psycho-social-economic well-being in the broadest sense and his willingness and capacity to secure these things for all others. Our concepts of ethical behavior and the institutions of a free society change in response to our growing understanding of man.

BIBLIOGRAPHY

MATERIALS ON PERSONALITY AND A FREE SOCIETY

- Bay, Christian, *The Structure of Freedom*. Stanford, California: Stanford University Press, 1958, 419 pp.
- Frenkel-Brunswik, Else, "A Study of Prejudice in Children," *Human Relations*, I, No. 3 (1948), pp. 295-306.
- , "Differential Patterns of Social Outlook and Personality in Family and Children," *Childhood in Contemporary Cultures*, eds. Margaret Mead and Martha Wolfenstein. Chicago: University of Chicago Press, 1955, pp. 369-405.
- , "Environmental Controls and the Impoverishment of Thought," *Totalitarianism*, ed. Carl J. Friedrich. Cambridge, Mass.: Harvard University Press, 1954.
- , "Intolerance of Ambiguity as an Emotional and Perceptual Variable," *Journal of Personality*, XVIII, No. 1 (1949), pp. 108-43.
- , "Patterns of Social and Cognitive Outlook in Children and Parents," *American Journal of Orthopsychiatry*, XXI, No. 3 (1951), pp. 543-58.
- , "Psychoanalysis and the Unity of Science," *Proceedings of the American Academy of Arts and Sciences*, LXXX, No. 4 (1954), pp. 271-350.
- Neel, Ann Felsing, "Relationship of Authoritarian Personality to Learning: F Scale Scores Combined to Classroom Performance," *Journal of Educational Psychology*, L, No. 5 (1959), pp. 195-99.
- Piaget, Jean, *The Moral Judgment of the Child*. Glencoe, Ill.: The Free Press, 1948.
- Rokeach, Milton, *The Open and Closed Mind*. New York: Basic Books, 1960.

MATERIALS ON THE METHODS OF A DEMOCRACY

- Allen, Dwight, "Parliamentary Procedure," *Social Education*, XXI, No. 3 (1957), 303-06.
- Dewey, John, *How We Think*. Boston: D. C. Heath and Company, 1910.
- Crary, R. W., ed., *Education for Democratic Citizenship*. Washington, D. C.: National Council for the Social Studies, 22nd Yearbook, 1952.
- Elliott, H., *The Process of Group Thinking*. New York: Association Press, 1928.
- Heffernan, Helen, "Discussion, a Technique for Democratic Education," *California Journal of Elementary Education*, XIV (February, 1946), pp. 146-52.
- "Helping Children to Grow in Democratic Values," Chapter III, *Education in Later Childhood*. Sacramento, California: California State Department of Education, 1957.

- McAulay, J. D., "Initiating the Group Method," *Social Education*, XXI, No. 3 (1957), pp. 313-15.
- Miel, Alice, and Peggy Brogan, *More Than Social Studies*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957.
- Thelen, Herbert A., *Dynamics of Groups at Work*. Chicago: University of Chicago Press, 1954.

MATERIALS ON TEACHING ETHICS

- Bogen, I., "Pupil-Teacher Rapport and Teacher's Awareness of Status Structure Within a Group," *Journal of Educational Sociology*, XVIII, No. 1 (1958), 104-14.
- Dewey, *Moral Principles in Education*. Boston: Houghton Mifflin Company, 1909.
- Durkin, D., "Children's Concept of Justice," *Journal of Educational Research*, LII, No. 5 (1959), 252-57.
- Educational Policies Commission, *Moral and Spiritual Values in the Public Schools*. Washington, D.C.: National Education Association, 1951.
- Foshay, Arthur, and Kenneth D. Wann, *Children's Social Values*. New York: Bureau of Publications, Teachers' College, Columbia University, 1954.
- Frenkel-Brunswick, "Interaction of Psychological and Sociological Factors in Political Behavior," *American Political Science Review*, XLVI, No. 1 (1952), 44-65.
- Freud, Sigmund, *Civilization and Its Discontents*. New York: Doubleday & Company, Inc., 1958.
- Gerth, Hans H., and C. Wright Mills, *Character and Social Structure*. New York: Harcourt, Brace and Company, Inc., 1953.
- Giles, Harry H., "Social Learning in a Free Society," *Educational Leadership*, XV, No. 1 (1958), 27-30.
- Hartford, Ellis, *Moral Values in Public Education*. New York: Harper & Brothers, 1958.
- Heffernan, "Teacher Helps Children Build Values," *California Journal of Elementary Education*, XXIII (1958), 243-53.
- Montagu, Ashley, *Helping Children Develop Moral Values*. Chicago: Science Research Associates, Inc., 1953.
- Moral and Spiritual Values in Education*, Publication No. 580. Los Angeles: Unified School District, 1954.
- Patterson, Franklin, ed., *Citizenship and a Free Society*. Washington, D.C.: National Council for the Social Studies, 1960.

FOOTNOTES

- * Alfred North Whitehead, *Aims of Education* (New York: New American Library of World Literature, Inc., 1919), p. 48.

1. Kubie, Lawrence, *Neurotic Distortion of the Creative Process* (Lawrence, Kansas: University of Kansas Press, 1958), p. 30.
2. Frenkel-Brunswik, Else, "The Anti-Democratic Personality," *Readings in Social Psychology*, with D. J. Levinson and R. N. Sanford (New York: Holt, Rinehart & Winston, Inc., 1947) pp. 531-54.
3. ———, "Patterns of Social and Cognitive Outlook in Children and Parents," *American Journal of Orthopsychiatry*, XXI, No. 3 (1951), 543-58.
4. ———, "A Study of Prejudice in Children," *Human Relations*, I, No. 3 (1948), 295-306.
5. ———, "Environmental Controls and the Impoverishment of Thought," *Totalitarianism*, ed. Carl J. Friedrich (Cambridge, Mass.: Harvard University Press, 1954).
6. ———, *ibid.*, p. 33.
7. ———, "Psychoanalysis and the Unity of Science," in Contributions to the Analysis and Synthesis of Knowledge, *Proceedings of the American Academy of Arts and Sciences*, Vol. 80, No. 4, March 1954, p. 336.
8. Rath, Louis, "Evaluating the Program of a School," *Educational Research Bulletin*, XVII (1938), 57-84.
9. Hartford, Ellis, *Moral Values in Public Education* (New York: Harper & Brothers, 1958).
10. Piaget, Jean, *The Moral Judgment of the Child* (Glencoe, Illinois: The Free Press, 1948).
11. California Committee for the Study of Education, *Developing Moral-Spiritual Values in the Schools* (San Francisco: California Teachers' Association, 1957).

2

EXPERIMENTING AND EVALUATING

6. DESIGNING EXPERIMENTS IN CURRICULUM

IN THIS CHAPTER the materials are intended as suggestions for the curriculum worker, whether teacher or staff personnel, in achieving a role of greater precision in thinking and experimenting. A single chapter will not enable the school staff to experiment or to develop precision in design, but it can mark the doors that must be opened if educational experimentation is to borrow successfully the techniques now available from the behavioral sciences. This is what it is intended to do.

The maturity of any profession is marked by its increasing reliance upon evidence substantiated by research. In education the growth in autonomy of the teacher requires that he possess some research skills and more ability to find and use the results of research in all the behavioral sciences. Schools will continue to receive both the justified and the irrational criticism of a segment of the community until they employ these skills and resources in larger measure. Democratic solutions to the problems of mass education depend on new professional skills.

plines—physics, chemistry, biology, and metallurgy, for example. Unfortunately, the particular *methods* used by the physical scientists also came to be seen as *the* scientific methods. Frequently they led to designs in education too simple to adequately describe complex human behavior.

If science is not physics, chemistry, and so on, then what is it? Basically, it is a way of thinking, a way of organizing the data of the segment of the universe one has chosen to observe or study. It is as simple as sitting quietly and observing mud swallows build their nest. Or it is as complex as connecting the personality development of a child with the personality patterns of his parents and with the values dominant in the culture with which he and his parents are in continuous interaction. As a way of thinking, science involves noting similarities in things observed so they may be grouped or categorized, so that group A is seen to be made up of things with some common qualities and lacking qualities found in group B. It also means finding relationships between events, between characteristics. Out of knowledge of the way events interrelate, the observer or experimenter learns to predict with varying accuracy that if certain conditions occur certain events will arise from these conditions. So it develops that man can hypothesize relationships between events; if a certain kind of infant, for example, is genuinely deprived of basic physical and emotional contact with its mother it may be hypothesized that the child will develop the characteristics of a schizophrenic child. The hypothesis grows out of prior evidence, experience in clinics with schizophrenic children, studies of children in a variety of family settings. The hypothesis itself is part of a broader, more generalized idea about personality development, a *theory* of how children grow up and acquire the characteristics they do.

Observation, categorization, differentiation, interrelationships, theory, and hypotheses, these are thinking activities that make up *science as a way of thinking*. They apply as well to complex behavioral phenomena as they do to relatively simpler physical phenomena. When we ask educators to do scientific thinking there is nothing at once frighteningly difficult in this proposal. It is simply a suggestion that phenomena be handled in such an organized fashion that the interrelations of the phenomena are understood and that this understanding can be communicated to others working with the same kind of material. Again, this finding may be just the result of a direct observation—male seahorses care for their young—or it may be a complicated statement of several factors bearing on whether a child learns or not. Because problems involving human behavior—the

educator's business—are generally more complicated, the amount of attention devoted to analysis of the problems and to reducing them to factual situations is a longer process. The thinking process does not differ basically and it runs the gamut from just seeing the recording to the most abstract inferential processes. Hence there is not *a* scientific method; there are scientific methods. There are a number of ways of proceeding to discover truth, to test it, to establish it in new conceptual schemes to be used in their turn as means to new discoveries.

MEANING OF RESEARCH?

Research involves using scientific methods to establish new facts, new relationships, new concepts. Research begins with a situation in which there are identifiable problems. If it is intended that the findings of a research project be generalizable to a large population, to all twelve-year-olds in Iowa, for example, then the *situation* from which the problems arise must itself be *representative* of all the situations in which Iowa children find themselves. However, whether findings can be broadly generalizable or can be true of only a limited group, for example, twelve-year-olds in Oxford Elementary School, does not mean that the research has been more scientific in the first instance than in the second. In fact, the large study may be less scientific if you have claimed for the group studied a representativeness of all Iowa children or all Iowa classrooms that is not so in fact. The second research—twelve-year-olds in Oxford Elementary School—may be thoroughly scientific. So may an even more limited study, the learning problems of twelve-year-olds in Mrs. Calabash's room. The neglect of this fact has often kept teachers from experimenting seriously. The yearning after strict prediction for large populations has made some educational research dishonest. It is true that greater precision is needed in our curriculum research, but this precision may well lie in more careful research on more limited populations by more research teams.

Experimentation and research

The broad characteristics of research are indicated by the following steps:

1. The identification of problems in a situation.
2. The careful analysis of these problems as to their theoretical roots.
3. The selection of specific problems for research.

4. The formation of hypotheses as to relationships to be found in the data of the study based upon inductive observation of relevant factors.
5. The selection or devising of means of collecting information (data) about the problem.
6. Varying the conditions of the groups studied or taking advantage of natural variations existing between the groups studied.
7. Collecting information about the groups studied by means of the devices selected in 5.
8. Checking hypotheses against the analysis of data.
9. Clarification of the original problem in the light of verified hypotheses.
10. Restatement of hypotheses and theory to be subjected to the test of replication.

Obviously all research does not rigidly involve the steps listed. A descriptive study may include only a portrayal of surface factors in the situation being investigated to find out what is happening and point the way to remedial action. Or it may be diagnostic seeking to show causal relationships. An exploratory research study may intend to do no more than set up a problem for more precise investigation or to develop hypotheses. The important consideration in all research is clarity in purpose and an accurate appraisal of what the research can legitimately claim as to generalizability of results.

Experimentation, on the other hand as one aspect of research, involves varying the conditions of two or more groups studied or finding groups operating under different conditions. The experiment, then, is designed to find with as much accuracy as possible the differences caused by varied conditions.

Action research

Whether the term "action research" is a useful one or merely a concept distracting from clear thinking about research will have to depend on the individual consumer of the invention. It arose from the fact that practitioners in schools did not utilize existing research and did not do much research related to their own problems. Action research as a term meant research for practitioners and by practitioners. Traditionally, the connotation of experimentation was of rigidly controlled, narrow problems. The rich complex of human behavior in a classroom or a school obviously was

or if it is likely that the experiment will affect many people the action research should involve these people. It then becomes co-operative action research.

Regarding the involvement of practitioners in action research, Corey² suggests four conditions under which the quality of cooperation can improve:

1. Freedom to change the established ways of working in groups.
2. Continuous evaluation of group process by group members.
3. Willingness to put into effect those changes that members of the group, after considerable discussion, feel are necessary if the methods of group work are to be improved.
4. Training in group work methods under circumstances that simulate reality but are not quite so crucial.

SOURCES OF RESEARCH PROBLEMS

Asking what the sources of research problems are seems, on reflection, an almost unnecessary question. In the living situations of classrooms and schools there is an incessant bombardment of school personnel by questions as to their procedures, the characteristics of their children, and the relationship of the school program to the demands of society. Nevertheless the question frequently occurs: what are the problems with which schools should be concerned? The teaching profession has been intimidated at times by the assumed technicality of research and the supposed gravity of the decision involved in the selection of a problem for research, so that they tend to deny, or fail to recognize as significant, the problems they have before them every day.

Each classroom is a remarkable complex of interrelationships among students, between the teacher and the students, between this particular classroom and others, between teachers and staff personnel with different functions, and among teachers. The classroom also is involved with the community's feelings about the school, about the teachers. Within the classroom there is the amazing complex of individuality of the children themselves. Their individuality needs to be protected and nurtured within the situation which in itself puts much pressure on the individual for conformity. The greatest source of research problems for the educator then lies in the classroom itself and in the relationships that exist there, and in

the various learning problems that are involved in carrying out the function of the school.

Among other sources of research problems is the teacher's own feeling of dissatisfaction, dissatisfaction with his procedures, his knowledge of the situation, with the role he can play in assisting the learning of children. Teachers have needs that are the subject for research.

Needs of pupils

The needs of pupils are also an important source of research problems. Many staffs have not made any consistent attempt to find out the needs of their pupils. There is a tendency for those who have worked with children over some period of time to feel that by that token they must really understand the needs of the children. Actually children learn a role as pupils in a classroom, and it often includes defenses against revealing important emotional problems related to learning. There is ample evidence in the literature that a teacher may live with a group of children for a long period of time without understanding many of the needs that are most important to them. There ought to be a systematic attempt, implemented by adequate techniques, for finding out the problems, the needs, of the pupils in any district. Many techniques are available for studying the needs of children. One of them that yields perhaps the deepest kind of information is that of the diary that the pupil keeps for sample weeks from time to time. Open-ended questions and sociometric measures of relationships with other pupils are useful. Other means are discussed in later chapters.

Unless an adequate study of these needs, inside and outside of school—an out-of-school-activities survey may be very useful—the school does not have an adequate basis for converting the needs of pupils into curriculum experience in the classroom.

Another major source of research problems is that of the stated goals of the school. Each school system lives by stated or implied goals. Discovering the extent to which these goals are achieved and the means by which they may be reached is an important source of research problems. The entire school situation is such a source of research problems for the educator. It is obvious now that much of the information on which we have relied for building our curriculum has not been adequately established by any valid research procedure. It is important that we gain more precision in the analysis of our profession's methods of working if we are to maintain public confidence and support.

NEEDS FOR RESEARCH METHODS IN EDUCATION

The problems of education, that is of schools, with regard to research procedures are varied. There is a great need for adopting from the behavioral sciences methods that will allow us to study the kinds of situations in which there are many variables. This is true, of course, of the human relations and of the human problems in general that concern schools. The very simple designs of a generation ago are not adequate to measure many of the goals now set up for education. They are not adequate for studying and experimenting with regard to human learning because the information regarding these things has been enormously complicated by the addition of many facts from the other areas of study, such as psychology and sociology.

The very simple designs for research, although they may give some evidence of significance, are often not very useful in the establishment of general knowledge for the use of the educator. From the behavioral sciences we need to adopt some method of data collection such as objective observation, the collection of data more systematically by interviewing, the observation of group behavior, and the analysis of qualitative material. We also need as educators to explore the possible utilization of nonparametric statistics for use with small numbers of subjects—pupils and teachers.

Theory in research

As we think about the needs for more complex ways for adequately handling our data, we also need to refer back to the most important consideration, a statement of theory and related hypotheses upon which any research in education must be based. The adequate statement of theory has often been neglected as a necessary prelude of research design. The theory stated in Chapter I is the broad kind of theory from which testable hypotheses can be derived. Let us illustrate with a portion of the general theory of learning: Learning takes place initially without the intervention of consciousness, consciousness being a second step in learning. Then to narrow this theory down into the form of testable hypotheses, we might state it thus: Children who are exposed to new material in mathematics, spatial relations as a specific case, and are not required to return evidence of their knowledge immediately by means of tests or question and answer checking by the teacher, will retain the information longer and be able to use it in practical situations more readily than a control group of children

who are exposed to the same material in the same way and then required to return evidence of their acquisition of the information by means of written tests or question and answer checking by the teacher. This illustrates the difference between theory and hypothesis and their interdependence. The theory is broad and as such not testable; the hypothesis arises from the theory; it is narrower and is testable. Eventually the theory can be supported, modified, or discarded by the testing of all of the relevant hypotheses needed to substantiate it.

We need to do research in education in this way in many of the neglected areas—in valuing, thinking, and creativity, for example. We also need to experiment in this way in our attempt to find out how to transform the needs of the individual child into curriculum research.

Large and small-scale research

There is no preference for large scale over small scale research. The important consideration is whether or not all the research that is done is done having clearly in mind the significance of it and its generalizability. Educators nationally and perhaps regionally ought to cooperate in large scale research with the purpose of establishing findings in regard to the education of children that may have broad applicability. The problem with broadly applicable research, however, may very well be that it applies to no individual; there may be inherent in such applications of highly generalizable research a violation of the individuality of the person and an encouragement to the school to disregard this individuality with its precious meaning for a changing democratic society. Small scale research also has its problems and its potential. It has the advantage of bringing to the practitioner the vitality of new learning. He too can engage in the method whereby all new information is discovered, that is, the method of inductive inference, which is the source of all new knowledge. The fact that he cannot generalize to all populations is not a criticism. He can if he has done his work carefully apply it to the group with whom he works, and this is the important group for him. Also out of small scale research come the hunches and leads for large scale cooperative ventures. In a sense the innumerable small efforts, which ought to be encouraged in all the schools, can be pilot studies for more expensive and prolonged research of a more fundamental character. Certainly there has been no adequate planning for either large or small scale curriculum research of an integrated nature. This is a venture that requires more adequate financing that has been available to date.

NEEDED: RESOURCES IN STATISTICS

Many statistical methods as applied to problems in the behavioral sciences, including education, have become extremely complicated. No one expects now that teachers or curriculum consultants can also be experts in the application of statistical methods to the kind of data the schools furnish. Either the director of research can be a resource person in helping the school apply statistical methods to their data, or the schools must employ a statistician who can help them at several stages of their work. The first stage, and perhaps the most important one, is in the stage when the design for the study is being made, and however minor the study may be it is worthwhile to have a statistician, an adequately trained one, to sit in on the plans for the design. By this method we accomplish some in-service education of school personnel and we assure ourselves that the effort to be expended in the study will be worthwhile.

DESIGNING CURRICULUM RESEARCH

What is design? What is good design, and what is bad design? Why is so much importance attached to the idea of design? Basically design is the plan by means of which you intend to find out whether or not the hypothesis you have put forward is to be supported or rejected. The questions we ask about design are: (1) does it allow us to collect the evidence necessary to test the hypothesis as stated; and (2) is the design efficient? We ask whether this is a poor design or a good design. There is always some feeling that a good design is a very complicated one that allows us to factor out the complex of causative factors. This, of course, is not true. Good design is neither complicated nor simple. Good design is appropriate to the kind of problem to be solved.

Design is a plan for the discovery of new knowledge. As Fisher⁴ states, "experimental observations are only experience carefully planned in advance and designed to form a secure basis of new knowledge; that is, they are systematically related to the body of knowledge already acquired, and the results are deliberately observed and put on record accurately. As the art of experimentation advances, the principles should become clear by virtue of which this planning and designing achieve their purpose." Inductive inference is the only way that we know to secure new knowledge

Applying the results of research

There are several aspects to this problem. The slowness with which research is applied in the field is an old story. The action research movement was designed primarily as a solution to this problem. It was hoped that by getting the staffs of the schools involved in cooperative action research on problems important to them the results of the research would be used. This seems to have been one of the most desirable outcomes of the action research movement. A concomitant of this kind of research in the field was a changing attitude on the part of the practitioner toward his ability to do and understand research. Such changes have been reported by Corey and Miles from the Cooperative Curriculum Research Institute and by Taba from her work in Yolo County, California.⁹ Until this attitude is established, there is little likelihood that research by others could or would be consistently applied. Also the increase in research on the job has an effect in increasing the usability of the research. The problems that are studied tend to be those that are more pressing and hence have results that are more often used.

The role of the director of research in a school system could be an important one. In the past he has often tended to concern himself with the data from standardized tests of various sorts. He collated the data on attendance trends and other kinds of information largely arising from central office operation. The proper function of a director of research is to facilitate the research character of the educational operation in the classroom and in the individual school. He ought to bring to the schools and to the teachers ideas of things that should be researched, but he must also find from the teaching and administrative staff closest to children the kinds of problems that the school system should research. His function should be to help teachers, principals, and curriculum consultants to discover and to design research on problems of consistent and pressing significance to the school. Operating in this way he can make a real contribution. It is often difficult for a research director to operate in this way. He is frequently loaded down with minor kinds of statistical computation, and often his selection of research as his primary occupation may reflect a desire to pull away from the hurly burly of active involvement with children and teachers and the chaotic human relations problems of the typical school. However, he is logically the resource person for helping the school conduct its operation as if it were not only an action operation but simultaneously a research operation.

per cent from upper-lower and lower-middle classes, and ten per cent from lower-lower classes. Then the samples to be drawn for study will have this proportion of children from the various social classes—if class origin is important in the design. The samples selected are chosen in random fashion so that biasing factors distorting the sample are eliminated.

Sampling distributions

Because it is necessary to check the unbiased character of the sample drawn, a number of samples may be drawn from the same population. If the mean is figured for each sample and a frequency distribution made of these means, we have what is called a *sampling distribution*. Then the job is to see whether these means of the various samples are clustered or whether they show so much variance that the adequacy of the sampling procedure appears doubtful. The measure of this variation is called the *standard error*. It is a standard deviation of the sampling distribution.

Randomization

In selecting children for a study, for example, in rapidity of learning subtraction involving two different methods, care must be taken that the children selected for one group are not "biased"—more intelligent, for example, than those in the other group. This may be accomplished in a number of ways, but when we are concerned with large numbers one of the methods of random selection is used. Basically, these methods rely upon the laws of chance, that when a selection is made in a purely random fashion the biasing differences will fall equally into the groups being compared and thus cancel themselves out. Methods of randomizing include putting numbers on cards and shuffling and selecting, arbitrarily selecting every fourth name, for example, in an alphabetized list, using a table of random numbers, and like measures.

Null hypothesis

When an experiment is set up, the design should include a specific statement of the null hypothesis. The *null hypothesis* states that the differences observed as a result of the experiment are simply due to chance, not to the effect of the differences in treatment given the subjects. The purpose of the statistical handling of the data is to show, if possible, that the null hypothesis

or to bring new knowledge into the world. Experimental design is closely involved in the preservation and liberation of the human intellect. "The development of experimental science has therefore done much more than to multiply the technical competence of mankind . . . the art of experimental design and the valid interpretation of experimental results, in so far as they can be technically perfected, must constitute the core of this claim to the exercise of full intellectual liberty."⁴ What Fisher is pointing out is that the application of deductive processes alone would chain man's thinking to existing dogma and its application. To free men the scientific method must be applied to experience for the discovery of new truths which could not be developed out of deductive reasoning alone. Hence the importance of fully utilizing the experience of the teacher in the school.

TOOLS OF CURRICULUM RESEARCH

Probability

The concept of probability is a basic one to thinking about research design. Often called the "laws of chance," probability as a concept is essential to understanding of tests of significance and of the normal curve. A test of significance applied to experimental data yields a probability. In designing curriculum research, a variety of tests of significance are used.

Samples

Since we frequently cannot study all individuals in a population, for example, all sixth-graders in the public schools, a *sample* of the total population is studied. If the study is to have validity, the sample must be selected so that it is truly representative, unbiased. The size of the sample needed will depend on a number of things, including the number of factors being studied. If, for instance, we are interested only in how sixth-graders perform on a reading test, the sample can be quite small. If, however, we also want to know how children of different intelligence quotients, different socioeconomic backgrounds, different ethnic and racial groups perform, then the size of the sample must be enlarged. The method of selecting the sample involves prior knowledge of the general characteristics of the population. That is, suppose it is known that fifteen per cent of the population studied is from the upper-middle and upper socioeconomic groups, seventy-five

need for using distribution-free methods (nonparametric) in some curriculum research.

In the many situations that occur in schools where the group studied obviously does not fit a normal distribution, the use of nonparametric methods is needed. A fuller development of this is included in the discussion of nonparametric statistics.

Increasing the experiment's sensitivity

The problem of increasing the sensitivity of an experiment devolves around four possibilities: (1) increasing the size of the number of subjects in the experiment, that is, increasing the N ; (2) repeating the experiment a number of times; (3) by changing the design; and (4) by refining the statistical techniques used. In curriculum research the most useful means would be (1) and (2). This is particularly true in view of the inexactness of much data in education. Careful randomization in design would also increase the chance that the result is a true one.

Misuse of the r

Educational research has made much use of the correlation coefficient (r). This is a development of the educator's need to determine causal relationships between events, between I.Q.'s and grades, for example. That it has been overused and misused is true. For much personality research it is an overrefined method. There is also the possibility that the method may be applied to factors that are not related. It can be shown that in a certain city the people who live in the hill area have fewer illnesses than those who live on the lowlands. Altitude can be shown here to be positively correlated with freedom from disease whereas the difference is probably related to socio-economic class. This is an absurd instance of misuse of the r , but it has often been misused in cases where the experimenter failed to perceive that there was not a true relationship, only a coincidence. That there is a real relationship between factors must be determined by the experimenter's application of logic.

Multiple causation

In human behavior causation is usually multiple. The idea of experimenting with only one condition at a time, once an ideal of experimenters, is often

is false, that the differences observed are really due to the methods used with the subjects. For example, consider the experiment mentioned earlier designed to test the hypothesis that children will retain and practically use mathematics concepts better if they are not required to reproduce the material by means of pencil and paper tests and teacher questions. The null hypothesis states that the differences found between the two groups as to retention and practical application are chance differences.

The statistical methods used to reject the null hypothesis, or support it, are called *tests of significance*. A test of significance yields a probability. *Probability* here refers to the theoretical relative frequency of events. If the probability given by the tests of significance is small then the null hypothesis is rejected. A probability of 0.01, for example, means that the difference found is an event that would occur by chance only once in a hundred times. We can assume that our finding of a difference is a very significant one, that the difference is probably not due to chance but to what we did in the experiment. There are many tests of significance used with different statistical procedures. The purpose of them, however, is always as described above.

Representativeness of situation

The concept of representativeness of situation is a useful one in curriculum research. It refers to the question, Is this school situation really representative of all situations to which we want to extend the generalizations from experimentation? As samples of situation taken from a population of situations (classrooms, for example) have a distribution, generally in the shape of a normal curve.

In curriculum research design, consideration of representativeness of situation has value in certain negative ways also. The experimenter assesses whether the classroom studied is really representative. One of the reasons for our emphasis on increasing the use of nonparametric statistics in curriculum research is the fact that the individual school or classroom may not at all have a population with characteristics distributed as a normal curve. We may, on the contrary, work with samples we know are not from normal distributions. Hence the concept of representativeness of situation is useful in two practical ways: (1) It leads us to assess whether or not the situation in which we wish to experiment is sufficiently representative of all situations to which we would want to generalize. (2) It emphasizes the

2. If samples are very small, e.g., six, there is in effect no alternative to a nonparametric test (unless the parent distribution really is known).
3. If the sample consists of observations from several *different* populations there may be a suitable nonparametric treatment.
4. The methods are usually easier to apply than the classical techniques.
5. If the data are inherently of the nature of ranks, not measurements, they can be treated directly by nonparametric methods without precariously assuming some special form for the underlying distribution.
6. In certain cases data can only be taken as "better" or "worse," that is, an observation can be characterized only as a plus or minus. Obviously, the classical tests are not directly applicable to such data.

The disadvantages of nonparametric methods Moses describes are:

1. If nonparametric tests rather than normal-theory tests are applied to normal data then they are wasteful of data. The degree of wastefulness is measured by the "efficiency" of the nonparametric test. If, for example, a test has eighty per cent efficiency this means that *where the data are from a normal distribution*, the appropriate classical test would be just as effective with a sample of twenty per cent smaller size. The efficiency thus expresses the relative merits of the nonparametric test and the classical test under the conditions *where the normal test is correct*, but does not tell us how the tests will compare on nonnormal data.
2. The nonparametric tests and tables of significance values are widely scattered in the periodical literature.
3. For large samples some of the nonparametric methods require a great amount of labor, unless approximations are employed.

Kinds of nonparametric tests

There is a great variety of nonparametric tests. The list below is intended to show the resources available. Detailed explanations of them are beyond the scope of this chapter, but the references will help the research students develop the concepts more fully. Numbers refer to italicized numbers following certain entries in the bibliography.

1. Sign Test (11, 25)
2. Wald-Wolfowitz Run Test (23, 28, 29)
3. Wilcoxon Test (25, 34)

mathematics concepts better if they are not immediately tested by pencil and paper and oral question. The class is divided into two groups. Each group receives the same instruction from the same teacher. The groups are paired according to intelligence and a pretest over the concepts to be taught. Each member of a pair is assigned to Groups A and B on a random basis.

After instruction, Group A pupils are given a recall type of pencil and paper test over the material and then asked specific questions by the teacher. Group B takes no tests.

Three days after the presentation the groups are given a test of application in which both groups are asked to solve problems involving the use of the spatial concepts taught. The scores on this test are shown in Table I.

TABLE I
SCORES ON TEST OF APPLICATION

A Group	B Group	(Sig. of $x-y$)
96	93	+
95	94	-
90	91	+
88	90	+
87	84	-
80	83	+
79	81	+
76	80	+
75	76	+
74	72	-
70	71	+
64	70	+
63	65	+
61	62	+
58	59	+

The test of the significance of the differences found is performed by listing the scores of the pairs. A plus or a minus sign is given each pair according to the way in which the difference falls, a plus assigned for a higher Group B score and a minus to a higher Group A score. The $N = 15$, and the *smallest* number of signs is represented by r . The null hypothesis is that the median difference is zero, that the plus and minus signs will be equal in number.

In this study twelve of the differences are positive and three negative.

4. Mann Whitney U Test (19, 34)
5. Marshall's Test (20)
6. Smirnov Test (21, 22)
7. Analysis of Variance with Ranked Data (13, 14, 16, 32)
9. Kruskal and Wallis H Statistic (18, 34)
10. Randomization Tests
 - a. Matched Pairs (31)
 - b. Wilcoxon's Test (30, 31)
 - c. Two Sample Test (25)
 - d. Pitman's Randomization Test (27)
11. Tests of Relationships
 - a. Contingency Test (23)
 - b. Corner Test (26)
 - c. Rank Correlation (17)
 - d. Kendall's Tau (10, 17, 34)
12. Percentiles (12, 25)

Using nonparametric statistics

The nonparametric methods are not difficult but space does not allow for their development here. The resources listed in the chapter should provide the experimenter with adequate information. It would be more logical and ultimately more useful if research courses offered in education began with probability and nonparametric methods than with the concept of the normal curve. The latter concept, essential as it is, also tends to encourage in personnel working with children a rigid concept of human potential. In its misapplications it leads to disregard of individuality.

The uses of nonparametric methods in studying the effectiveness of different methods of instruction applied to small numbers, a classroom, for example, or a group, need to be developed. They can give a rapid, valid comparison using the kind of data collected in classroom research projects. Studies of the teaching of values, appreciations and attitudes can be made in the classroom.

Sign test in classroom research

The value of nonparametric or distribution-free statistics in classroom research involving small numbers is illustrated below by the use of the *sign test* (11).

A teacher working with a class of thirty pupils at seventh grade level wishes to test the hypothesis that children will retain and apply certain

(one coin falling through a crack) is less than 0.01, that is one chance in 100 that the difference found was purely due to chance. The difference found is a significant one.

Although the sign test is probably the simplest of the nonparametric tests, most of them can be readily learned and applied.

BASIC PROBLEMS IN CURRICULUM RESEARCH

1. Building research procedures into the daily work of schools, including teachers, curriculum consultant, and administrator personnel. This means in-service education in research at levels appropriate to the operational need of the school worker. It also means a more active role for the director of research and for administrative personnel.

2. The evaluation of a theoretical base for school operation at every level so that research design may have its roots in theory and hypotheses that clarify, not only educational practice, but research itself. The theory developed in Chapter 1 is the broad beginning of such a basis for curriculum research. Without this step much research design will remain molecular in scope and fail to improve school programs.

3. The idea of a range of research precision and generalizability would help the schools do the kind of research most useful to them and for which they have the resources. It will also clarify the meaning of scientific method now so often restricted by notions of rigid, controlled experimentation.

4. There is need, on the other hand, for adequate financing and staffing of carefully controlled experimentation in such areas as (a) how the child comes to accept learning, (b) what the scope of the mathematics program should be, (c) what the personality syndromes of effective teachers are, or (d) the factors that lead children to accept and apply democratic ways and many others.

5. The present attacks upon the schools even though they are promoted by a relatively small number of people, are partly justified and have given rise to much uneasiness on the part of school patrons. The proper answer to criticism is research data. Not that the school should engage in a negative research program to disprove accusations as they arise. A carefully organized research program based upon the best theoretical model we can build is the proper response to current criticism.

Our expectation (the null hypothesis) was that the plus and minus signs would be equal. The problem now is to use what we know about probability to determine how significant the difference is. The experimenter uses a table for this purpose such as that provided by Dixon and Massey (10). An r of three in a sample of fifteen yields a probability of one in twenty. That is, the chances are one in twenty of getting a value of r equal to or less than three.

The difference attained, therefore, is significant at the 0.05 level. The experimenter is justified in concluding that the methods used with Group B yielded a difference over those used with Group A that was significant.

The sign test thus provides a simple, rapid test for a small N and, like many of the nonparametric methods, allows the experimenter to work with small numbers in the classroom.

Sign test applied to the same group

Keith Smith provides an example of the application of the sign test to a group before and after exposure to a study of race prejudice. Twenty-two students filled out a questionnaire on attitudes toward Negroes before making an extensive study of race prejudice, and again afterward. The results are shown in Table II.

TABLE II
QUESTIONNAIRE SCORES ON RACE PREJUDICE

Subjects	After	Before	Difference	Subject	After	Before	Difference
1	35	31	+4	12	28	27	+1
2	36	29	+7	13	27	26	+1
3	29	35	-6	14	27	25	+2
4	34	32	+2	15	33	32	+1
5	33	29	+4	16	42	40	+2
6	28	33	-5	17	19	18	+1
7	33	30	+3	18	37	36	+1
8	28	38	-10	19	40	40	0
9	28	35	-7	20	32	31	+1
10	25	22	+3	21	31	27	+4
11	33	31	+2	22	30	29	+1

If the null hypothesis were true we would expect half of the signs to be plus and half minus. The results were seventeen plus and four minus, and one zero. The probability of getting seventeen heads and four tails

- Jahoda, Marie, *et al.*, "Research and Theory," *Research Methods in Social Relations*, Vol. 1, pp. 324-39.
- Johnson, Palmer O., "Some Promising New Methods," *Phi Delta Kappan*, 35 (October, 1953), 35-40.
- Miles, Matthew, and Stephen Corey, "The First Cooperative Curriculum Research Institute," *Research For Curriculum Improvement*, pp. 305-48.
- Nelson, G. E., "Educational Periodicals—Which are Most Useful for Research?" *Clearing House*, 31 (May, 1957), 547-48.
- Pierce, Paul, "Extending Curriculum Theory. A Transition Experiment," *School Review*, 59 (April, 1951), 203-11.
- Ryans, D. G., "Are Educational Research Officers Conducting Research?" *Journal of Educational Research*, 51 (November, 1957), 173-83.
- Symonds, Percival, "Organization of Education Research in the U.S.," *Educational Digest*, 23 (January, 1958), 45-47.
- Taba, "New Tools for New Needs," *Educational Leadership*, 10 (April, 1953), 433-37.

MATERIALS ON DESIGNING CURRICULUM RESEARCH AND
NONPARAMETRIC STATISTICS IN CURRICULUM RESEARCH

Design

- Chapin, F. Stuart, *Experimental Designs in Sociological Research*. New York: Harper & Brothers, 1955. (2)
- Edwards, Allen, "Principles of Experimental Design," Chapter 2, *Experimental Design in Psychological Research*. New York: Holt, Rinehart & Winston, Inc., 1950, pp. 15-32. (3)
- Fisher, R. A., *The Design of Experiments*. London: Oliver & Boyd, Ltd., 1951, pp. 8-9. (1)
- Jahoda, Marie; Morton Deutsch, and Stuart Cook, eds., *Research Methods in Social Relations with Special References to Prejudice*. New York: The Dryden Press, Inc., 1951, 2 vols. (5)
- Travers, Robert, "Problems of Research Design," *An Introduction to Educational Research*. New York: The Macmillan Company, 1958. (4)

Probability

- Arley, Niels, and K. Rander Buch, *Probability and Statistics*. New York: John Wiley & Sons, Inc., 1950. (6)
- Edwards, "Probability and Experimental Design," *op. cit.*, pp. 33-50. (7)
- Newman, James R., ed., "The Laws of Chance," *The World of Mathematics*, Vol. 2, New York: Simon and Schuster, Inc., 1956, pp. 1316-1414. (8)

Nonparametric statistics

- Chapin, F. S. "Nonparametric or Distribution-free Statistical Methods," *op. cit.*, pp. 202-22. (9)

BIBLIOGRAPHY

References useful with the foregoing sections:

MATERIALS ON DEVELOPMENT AND NATURE OF RESEARCH AND SCIENTIFIC THINKING

- Beauchamp, G. A., "Curriculum Organization and Development in Historical Perspective," *Review of Educational Research*, 27 (June, 1957).
- Conant, James B., *On Understanding Science*. New York: Mentor Books, 1951.
- Corey, Stephen, *Action Research to Improve School Practices*. New York: Bureau of Publications, Teachers' College, Columbia University, 1953, pp. 40-41, 96.
- Curriculum Making Past and Present*, National Society for the Study of Education, 26th Yearbook, Part I. Bloomington, Illinois: Public School Publishing Co., 1926, 475 pp.
- Foundations of Curriculum Making*, *ibid.*, Part II, 236 pp.
- McKim, Margaret, "Curriculum Research in Historical Perspective," *Research for Curriculum Improvement*. Association for Supervisors and Curriculum Development, Yearbook, 1957, pp. 14-40.
- Northrop, F. S. C., *The Logic of the Sciences and Humanities*. New York: The Macmillan Company, 1947.
- Passow, Henry, et al., *Training Curriculum Leaders for Cooperative Research*. New York: Teachers' College, Columbia University, 1955.
- Shumsky, Abraham, *The Action Research Way of Learning. An Approach to In-Service Education*. New York: Bureau of Publications, Teachers' College, Columbia University, 1958.
- Taba, Hilda, and Elizabeth Noel, *Action Research, A Case Study*. Washington, D.C.: Association for Supervisors and Curriculum Development, National Education Association, 1957.
- and ———, *Action Research as a Method of Curriculum Improvement*. Washington, D.C.: Association for Supervisors and Curriculum Development, National Education Association, 1957.

MATERIALS ON SOURCES AND METHODS OF RESEARCH

- Cook, W. W., "Curriculum Research," *Review of Educational Research*, 26 (June, 1956), 224-40.
- Fleming, R. S., "Research and Evaluation in Curriculum Planning," *Review of Educational Research*, 27 (June, 1957), 295-303.
- Foshay, A. W., and J. H. Green, "Technics of Curriculum Research," *Review of Educational Research*, 24 (June, 1954), 246-52.
- Herrick, Virgil, and Chester Harris, "Handling Data," *Research for Curriculum Improvement*. Association for Supervisors and Curriculum Development, Yearbook, 1957, pp. 83-118.

- Cramer, H., *Mathematical Methods of Statistics*. Princeton, N.J.: Princeton University Press, 1946, p. 232. (33)
- Dixon, W. J., and Frank J. Massey, "Nonparametric Statistics," Chap. 17, *Introduction to Statistical Analysis*. New York: McGraw-Hill Book Company, Inc., 1951. (10)
- Dixon, and A. M. Mood, "The Statistical Sign Test," *Journal of the American Statistical Association*, 41 (1946), 557-66. (11)
- Festinger, L., and D. Katz, "Distribution-free Statistical Methods and the Concept of Power Efficiency," Chap. 12, *Research Methods in the Behavioral Sciences*. New York: The Dryden Press, Inc., 1953. (12)
- Friedman, Milton, "A Comparison of Alternative Test of Significance for the Problem of m Rankings," *Annals of Mathematical Statistics*, 11 (1940), 86-92. (13)
- , "Use of Ranks to Avoid the Assumption of Normality Implicit in the Analysis of Variance," *Journal of the American Statistical Association*, 32 (1937), 675-701. (14)
- Hoel, P. G., *Introduction to Mathematical Statistics*. New York: John Wiley & Sons, Inc., 1947, Chap. 9. (15)
- Kendall, M. G., and B. B. Smith, "The Problem of m Rankings," *Annals of Mathematical Statistics*, 10 (1939), 275-87. (16)
- Kendall, *Rank Correlation Methods*. London: Charles Griffin & Company, Ltd., 1948. (17)
- Kruskal, W. H., and W. A. Wallis, "The Use of Ranks in One-Criterion Analysis of Variance," *Journal of the American Statistical Association*, 47 (December, 1952), 583-621. (18)
- Mann, H. B., and D. R. Whitney, "On a Test of Whether One of Two Random Variables is Stochastically Larger than the Others," *Annals of Mathematical Statistics*, 18 (1947), 50-60. (19)
- Marshall, A. W., "A Large Sample Test of the Hypothesis that One of Two Random Variables is Stochastically Larger than the Others," *Journal of the American Statistical Association*, 46 (1951), 366-74. (20)
- Massey, F. J., Jr., "The Komogorov-Smirnov Test for Goodness of Fit," *Journal of the American Statistical Association*, 46 (1951), 68-78. (21)
- , "The Distribution of the Maximum Deviation Between Two-Sample Cumulative Step Functions," *Annals of Mathematical Statistics*, 22 (1951), 125-28. (22)
- Mood, A. M., *Introduction to the Theory of Statistics*. New York: McGraw Hill Book Company, Inc., 1950. (23)
- Moses, Lincoln, "Nonparametric Statistics for Psychological Research," *Psychological Bulletin*, XLVIII, No. 3 (March, 1952), 122-43. (25)
- Olmstead, P. S., and J. W. Tukey, "A Corner Test for Association," *Annals of Mathematical Statistics*, 18 (1947), 495-513. (26)
- Pitman, E. J. G., "Significance Tests Which May be Applied to Samples from Any Population," *Journal of the Royal Statistical Society, Supp. Journal*, 4 (1937), 119-30. (27)

7. EVALUATING PUPIL GROWTH

EVALUATION is an aspect of general research. It refers to finding out the results of experiences children have had. Despite the amount of effort expended on the problems of evaluation, it is by far the least developed professional area in practice in the field. Although the concept of evaluation is a broad one, in practice evaluation is too restricted to measure the range of goals set up for elementary schools. As a scientific study it began with measures of achievement in relatively narrow subject fields such as spelling and handwriting. The failure to evaluate broadly has placed the schools in a critical position with regard to public criticism. Broad social-personal goals have been asserted for the schools, and we know that we cannot deal with human beings in any other way. However, because evaluation has been so inadequately developed we have insufficient basis to demand the things we feel we need—for example, small classes, heterogeneity instead of homogeneity, individualized reading instruction rather than reading groups, emphasis upon warm classroom climate instead of disregard for it, or the teaching of trust

Total evaluation and the ultimate criterion

Schools have been concerned with an "ultimate criterion" of their effectiveness for some time. Because children come from such different backgrounds and have important experiences at home and in the community also, the schools have often felt they could not distinguish school-effect from the total impact of the children's environment. To a degree this feeling has been misleading. It has served to prevent total evaluation of children, the schools tending to evaluate in terms of a narrow band of more easily attained objectives. It has also implied that schools and communities are really separate, when, as far as children go, they cannot be. It also left gaps in our knowledge about children where we assumed the school's role stopped; frequently enough where the school stopped no other agency, home or institution, took up the problem. An example of this is the great need of adolescents to have contact with real work in order to develop some sense of identity, some connection with the society in which they must remain dependents for such a long time. This problem of identity seldom gets evaluated until the child is mentally disturbed. In a total evaluation scheme this would be caught early. Had we complete evaluative data—the ultimate criterion of community-school-family effectiveness—we could improve the work of the entire community in the development of children.

EVALUATING INTELLIGENCE

We are probably less certain today about the meaning that should be assigned to the term "intelligence" than we were two decades ago. Writers are more likely to refer to intelligence tests as measures of scholastic aptitude, emphasizing that many intellectual factors that may be important in the functioning of the child are not included in the tests. We are also less certain as to what is genetic and what is an environmental product than we were. A number of studies suggest that very early experiences of children may be far more important in setting intelligence levels than was thought formerly. For the curriculum worker this developing complexity around the concept of intelligence means first, that several measures of intellectual functioning should be used, and second that the concept of intelligence needs to involve in it notions of energy, motivation, aspiration, and freedom from unconscious distortion and restriction.

Group measures of intelligence, although useful, may be extremely

The values of such a total evaluation of personality are several. Teachers suffer at present in their relations with the public by having inadequate information about children in general and individual children. Teacher professionalization depends upon more data, more understanding of children. A second value of total evaluation arises from the open question of what schools should do for children, what schools can do for children, what other agencies can do, and what needs are not being served by any kind of experience. In a sense this is suggesting that we explore in human personality as extensively as our means will permit, and then reassess children's experiences in school and in the community.

Obviously this need be done with only samples at the beginning. Although this will serve to help us understand in depth only a part of the school population, it will give us a picture of the special characteristics and needs of the children who come to a particular school. On this, as developed in Chapter 4, we can begin to differentiate curriculum experiences. Later we may find that we can do this with every individual.

Meaning of total evaluation?

This is a question that can be completely answered only at a given time, a year, a month. As our understanding of personality grows and the means of studying personality proliferate, the concept of *total* will change. Certainly at present it includes such things as these:

Physical health	Physical skills
Resolution of nuclear conflicts	Knowledge and appreciation in aesthetics
Knowledge of social, physical realities of total environment	Personal-social adjustment
Interests, Aptitudes	Prejudice
Authoritarianism	Tolerance for ambiguity
Creativity	Values, Ethics
Critical Thinking	Attitudes toward authority
Attitudes toward differences	Social skills
Action patterns	Concept of self as learner
Modalities used for learning	Use of methods appropriate to a free society
Use of scientific methods	Relations with adults
Relations with peers	Ability in tool skills
Relations with younger children	

At present we have only a partial picture of the children with whom we work in school. The entire community, particularly the child-serving agencies, needs as complete a picture of children's personality development as possible. The concept of *total evaluation* can lead to the community's adequate understanding of the job of education.

a feeling. The term *interest* acquires particular significance in the personality development theory when its meaning includes this kind of orientation of the person toward something. Learning takes place as a result of this orientation, this push or cathexis of something in the environment.

Interests have different kinds of significance for the adults guiding the children; some have vocational importance, others have importance as indications of what identifications the child is forming. Evaluation of these interests can be done by means of pencil and paper tests, questionnaires, observation, interviews of children, studies of out-of-school activities, utilization of free choice periods, and in many other ways.

APTITUDES—THEIR EVALUATION

Although elementary teachers often have a good understanding of children's aptitudes, they may also miss large areas of personality assessment because they tend to be preoccupied with verbal types of aptitude. It is also rather generally true that they do not pass on what they have found out about their children's aptitudes as a result of "living" with them for from seven to nine years in the self-contained classroom of the elementary school.

The discovery of aptitude is important for several reasons. The obvious one is that the child's aptitude may determine what he can learn best and what he may want to do vocationally. It is also important, as emphasized briefly in Chapter 2, that an individual's sense of identity can be supported by encouragement around the area of his genuinely greatest aptitude. In the *total evaluation scheme*, if applied, we would also discover aptitudes with which the school then might become more actively concerned.

EVALUATING RELATIONS WITH OTHERS

It is particularly in his interaction with others—peers, adults, older and younger children—that the child gives us clues as to how much progress he is making with the normal problems of personality development. The school's interest in the child's relations with others stems from this consideration but also from such concerns as these: (1) He needs good peer associations from which he can learn, that give him a feeling of inclusion,

unreliable for individuals and even for entire classes when the class attitude toward the test situation is poor.

Teachers can learn to pick up clues as to degrees of ability from observation of children at work. Some study of standard intelligence test problems will aid the teacher in making estimates of children's ability from their work on various classroom problems.

EVALUATING PHYSICAL HEALTH

The physical development of elementary school children is perhaps one of the most inconsistently worked areas of the curriculum. Systematic evaluation would probably serve a dual purpose of, first, helping teachers focus on the specific behaviors that make up physical development and, second, encouraging a more sequential program of skill development.

The at-homeness with one's body which each child needs to acquire can be helped by a systematic program geared to the individual, however, rather than mass standards and competition.

EVALUATING RESOLUTION OF NUCLEAR CONFLICTS

In the clinical setting there are, of course, more elaborated methods of studying children than the teacher has time or training to do ordinarily. But the teacher has the advantage of day-long observation of the child in interaction with other children. By making anecdotal records or using tape recorders he can gather data that he can analyze at greater leisure. The bases for evaluating progress in such nuclear conflicts as trust, autonomy, initiative, competence, and identity were developed in Chapter 2. The instruments used are the informal ones: observation, the checklist, open questions, problem stories, projective and devised situations.

EVALUATING INTERESTS

Interests give us a clue to the most favorable avenues for learning, and we use them in the selection of experiences and material. There is an intuitive recognition that before anyone learns he must be "going somewhere," that is, he must be actively relating to something—an idea, a fact, an individual,

In order to evaluate in this area the curriculum worker necessarily has to become a student of values and ethics. In a very real sense, he can evaluate only with what he knows. Here the instrument is valuable but he cannot lean on it for lacks in his own ability to appraise the subtleties of children's values or ethics.

EVALUATING CREATIVITY

The crux of creativity lies with the adults' willingness to let it happen. Certainly there are teachers who cannot, because of their own personality functioning, allow enough freedom to children so that they can work through a problem. The evaluation of a product as to its degree of creativity will depend much on the knowledge we have of what the product represents to children. Things cannot be termed creative or not creative where children are concerned simply on face value. What is copying for one is discovery for another. Creative teaching involves much rediscovery by children. It is, for the elementary years at least, the process of thinking that determines whether or not the child is being creative.

The principal method of evaluating creativity depends upon the study of what they produce and a careful listening to how they arrive at conclusions. Capability of doing creative work can perhaps be estimated by giving children "gap" problems, that is, problems where the necessary element must be thought out by the children if the problem is to be resolved.

EVALUATING THINKING

What we want to measure here is the ability of the child to do thinking appropriate to the situation in which he is involved. Whether this is plain observation, problem solving, or scientific method, there are two facets to it: (1) Is his thinking reality oriented, that is, appropriate to the problem? (2) Is he able to use thinking "resources," that is, does he know how to go about solving a problem? Does he know how to test a generalization? Does he know how to classify some kind of data?

For evaluating thinking there are many effective situation-type tests of a pencil and paper variety. The teacher also can devise tests appropriate to the subject matter with which the children are concerned.

and that he can use to separate himself in part from his parents and achieve some sense of autonomy. (2) He is going to work with others on vocational, economic, and political problems the rest of his life, and the effectiveness he has will depend in part upon his understanding and skill in interaction with others.

One of the most frequently used devices for evaluating the child's progress is the sociogram. Gronlund, whose book is included in the bibliography, has brought together the research on the use of the sociogram in an effective manner. The use of diaries, creative work, open-ended questions, Guess-Who tests, the Three Wishes, and many others will give the teacher who can bring enough understanding to the data a relatively complete picture of the child's progress in this area.

EVALUATING BASIC ATTITUDES AND VALUES

This is an area so broad as to defy adequate treatment in a volume. Yet the things that are lacking for evaluating are largely time and money. The topics listed above are undoubtedly the most important outcomes of human development. It is unfortunate that they are so seldom thoroughly evaluated. Wrightstone mentions both formal and informal means of doing so. Sellitz describes a number of projective methods of studying social attitudes. The use of the unfinished story, role playing, sociodrama, autobiographies, and diaries will give curriculum workers ample material for appraising the attitudes or values held by children.

The problem of getting information on such fundamental attitudes or values as intolerance of ambiguity, distortion of reality, and rigidity is not so much the technique of getting the information as deciding that such information is important for the school to know. The following questions used by Frenkel-Brunswick distinguished between authoritarian children and democratically oriented children, and they also distinguished between those who were prejudiced ethnically and those who were not. For example, some of the questions used are:

People can be divided into two distinct classes: the weak and the strong. Teachers should tell children what to do and not try to find out what the children want.

Girls should learn only things that are useful around the house.

There is only one right way to do anything.

him. At this point we have no way of evaluating this other than observation and analysis of the behavior in the light of what we know about personality development. The compulsive over-achiever, the agony of whose inner conflict drives him to achieve, is sometimes missed by the teacher who is at least initially pleased by having an eager student.

BIBLIOGRAPHY

MATERIALS ON BROAD CONCEPTS OF EVALUATION

- Ahmann, J. Stanley, and Marvin G. Glock, *Evaluating Pupil Growth*, Chap. 1. Boston: Allyn and Bacon, Inc., 1959.
- California State Department of Education, *Evaluating Pupil Progress*, Bulletin (Sacramento), XXI, No. 6, 1952.
- Frandsen, Arden, "Appraising School Achievement," *How Children Learn*. New York: McGraw-Hill Book Company, Inc., 1957.
- Wrightstone, J. W., J. Justman, and I. Robbins, *Evaluation in Modern Education*, Chap. II. New York: American Book Company, 1956.

MATERIALS ON EVALUATION OF INTELLIGENCE

- Ahmann and Glock, "Testing of Aptitudes," Chapter IX, *Evaluating Elementary School Pupils*. Boston: Allyn and Bacon, Inc., 1960.
- Guilford, J. P., "Three Faces of Intellect," *The American Psychologist*, XIV, No. 8 (August, 1959), 469-79.
- Tyler, Leona E., "Toward a Workable Psychology of Individuality," *American Psychologist*, XIV, No. 2 (1959), 75-81.

MATERIALS ON EVALUATING PHYSICAL HEALTH AND SKILLS

- Leonard, M. L., "Evaluation of Programs in Health Education," *California Journal of Secondary Education*, XXIII, No. 2 (1948), 89-92.
- Mann, Arvin W., et al., "The Red Graph and the Wetzel Grid as Methods of Determining the Symmetry of Status and Progress During Growth," *Journal of Pediatrics*, XLV, No. 2 (1948), 137-50.
- Torgerson, T. L., and G. S. Adams, *Health and Physical Fitness*, Chap. V. New York: The Dryden Press, Inc., 1954.

MATERIALS ON RESOLUTION OF NUCLEAR CONFLICTS

- Erikson, Erik, *Childhood and Society*, Chap. VII. New York: W. W. Norton & Company, Inc., 1950.
- Shafel, Fannie and George, *Role Playing the Problem Story*. San Francisco: National Conference of Christians and Jews, 1952.

EVALUATING THE METHODS OF A FREE SOCIETY

These are inseparable, of course, from thinking, attitudes, and other aspects with which we have dealt above. However, if anything is worth emphasis this seems to be. Evaluating the methods of a free society means measuring attitudes toward people and toward institutions. It also means evaluating the ability of children to work successfully with such methods of a free society as small groups, parliamentary rules, and problem solving in groups. It means evaluating their feeling about using and preserving such methods.

The first step in this process is to indicate as we have done in Chapter 5 what these methods comprise. We need then to decide in behavioral terms what it is that we are going to ask children to learn. With this kind of detail in hand we can use checklists, timed observations, pencil and paper tests of concepts, and other means for this purpose.

EVALUATING IN THE SUBJECT AREAS

There are many resources for the curriculum worker to use in evaluating subject matter achievement. Some of these are listed in the bibliography. As with all evaluation, the first step to be taken is a careful behavioral statement of objectives. If the curriculum worker is satisfied with how much can be recalled only, he may miss the all-important "engine" that will have more to do with later achievement. Broadly, there are three kinds of evaluation to be made of children's work in subject matter areas: (1) normative tests of subject matter recall, (2) informal methods of evaluating subject matter recall, and (3) the meaning of the material for the individual—including attitude, use in relation to developmental problems and neurotic use of achievement in the area. For the first two there is ample help in the literature even if the devices and practices both need improvement. The third category is largely unknown territory, but it is also important. Certainly the uses of knowledge are crucial in personality development. As discussed in Chapters 2 and 3, getting to know may represent an individual neurosis; it may also represent a wish to have a weapon that can be used punitively and aggressively. On the other hand learning to deal with the abstractions of mathematics, for example, may represent having something to replace the loss of parent or other loved ones. Achievement for neurotic reasons may be dangerous to the individual and those about

- Russell, David H., *Children's Thinking*. Boston: Ginn & Company, 1956.
 Wertheimer, Max, *Productive Thinking*. New York: Harper & Brothers, 1960.

MATERIALS ON EVALUATING THINKING

- Anastasi, Anne, "Situational Tests and Related Techniques," Chap. XXIII, *Psychological Testing*. New York: The Macmillan Company, 1954.
 Russell, *Children's Thinking*.
 Wrightstone, Justman, and Robbins, "Thinking and Problem Solving," Chap. XX, *Evaluation in Modern Education*.

MATERIALS ON EVALUATING METHODS OF A FREE SOCIETY

- Adorno, T. W., Else Frenkel-Brunswik, Daniel J. Levinson, and R. Nevitt Sanford, *The Authoritarian Personality*. New York: Harper & Brothers, 1950.
 Lippitt, Ronald, and Robert K. White, "The Social Climate of Children's Groups," *Child Development and Behavior*, R. G. Barker, J. S. Kounin, and H. F. Wright, eds. New York: McGraw-Hill Book Company, Inc., 1943.

MATERIALS ON EVALUATING SUBJECT MATTER ACHIEVEMENT

- Ahmann and Glock, "Informal Methods of Evaluating Achievement," Part III, *Evaluating Pupil Growth*.
 Anastasi, "Tests of Artistic Aptitudes," Chap. XVI, *Psychological Testing*.
 Commission on the English Curriculum, National Council of Teachers of English, "Evaluation of the Language Arts Program," Chap. XII, *Language Arts for Today's Children*. New York: Appleton-Century-Crofts, Inc., 1954.
 Fenichel, Otto, "Obsession and Compulsion," Chap. XIV, *The Psychoanalytic Theory of Neurosis*. New York: W. W. Norton & Company, Inc., 1945.
 Greene, H. A., A. N. Jorgensen, and J. R. Gerberich, "Health and Physical Education," Chap. XXI, *Measurement and Evaluation in the Elementary School*. New York: Longmans, Greene & Company, 1953.
 Hanna, Lavone A., Gladys Potter, and Neva Hagaman, "Evaluating Changes in Behavior," Chap. XI, *Unit Teaching in the Elementary School*. New York: Rinehart & Company, Inc., 1955.
 Harris, Albert J., "Evaluating Performance in Reading," Chaps. VII and VIII, *How to Increase Reading Ability*. New York: Longmans, Green & Company, 1956.
 McSwain, E. T., and Harold G. Shane, "Evaluating Understandings in Arithmetic," Chap. X, *Evaluation and the Elementary Curriculum*. New York: Henry Holt and Company, Inc., 1958.
 ———, and ———, "The Scientific Method and the Elementary Science Curriculum," Chap. XII, *ibid.*

"Techniques to Appraise Character Traits," *Evaluating Pupil Progress*, XXI, No. 6 (1952), 88-124.

MATERIALS ON EVALUATING INTERESTS

- "Appraising Interests," *Evaluating Pupil Progress*, XXI, No. 2 (1952).
 Dreese, Mitchell, and Elizabeth Mooney, *Interest Inventory for Grades*.
 Washington, D. C.: George Washington University, 1941.
 Thorpe, Louis P., Charles E. Meyers, and Marcella R. Sea, *What I Like to Do*.
 An Inventory of Children's Interests. Chicago: Science Research Associates, 1954.

MATERIALS ON EVALUATING ATTITUDES

- Remmers, H. H., and N. Gage, "Measuring Special Abilities," Chap. X,
Educational Measurement and Evaluation. New York: Harper &
 Brothers, 1955.
 Wrightstone, Justman, and Robbins, "Aptitudes," Chap. XVII, *Evaluation in*
Modern Education.

MATERIALS ON EVALUATING HUMAN RELATIONS

- Gronlund, Norman E., *Sociometry in the Classroom*. New York: Harper &
 Brothers, 1959.
 "Techniques to Appraise Pupil Behavior—The Anecdotal Record, the Rating
 Scale, the Check List, Autobiographies, and Diaries," Chap. VII-XI,
Evaluating Pupil Progress, XXI, No. 2 (1952).

MATERIALS ON EVALUATING ATTITUDES

- "Evaluating Attitudes," Chap. VI, *Evaluating Pupil Progress*, XXI, No. 6
 (1952).
 Frenkel-Brunswick, Else, "Interrelationships Between Perception and Person-
 ality: A Symposium, Part I," *Journal of Personality*, XVIII, No. 1
 (1949), 108-43.
 Selltitz, Claire, Marie Jahoda, Morton Deutsch, and Stuart Cook, *Research*
Methods in Social Relations. New York: Henry Holt and Company,
 Inc., 1959.

MATERIALS ON EVALUATING CREATIVITY

- Ghiselin, Brewster, *The Creative Process*. Berkeley, California: University of
 California Press, 1954.
 Hadamard, Jacques, *Psychology of Invention in Mathematical Field*. Princeton,
 N. J.: Princeton University Press, 1949.

3

THE SUBJECT AREAS

Tannenbaum, Harold E., and Nathan Stillman, "Evaluating Children's Growth in Science," Chap. XI, *Science Education for Elementary School Teachers*. Boston: Allyn and Bacon, Inc., 1960.

FOOTNOTES

1. Kearney, Nolan C. *Elementary School Objectives* (New York: Russell Sage Foundation, 1953).

social studies, and the others. The time has passed when a single chapter can prepare a student adequately to *teach* any subject. This chapter is devoted to the growing edges, the frontiers, in each field. It assumes that the student either has some knowledge of the methodology of the subject fields or will acquire it along with the reading of these chapters. This chapter is peculiarly concerned with the problems of the curriculum worker, the curriculum consultant, curriculum director, and the students and teachers who want a broader look at the key problems in curriculum making in the subject areas.

The frontiers discussed in these chapters are those on which there is some research evidence and which can be supported by theoretical considerations. For each subject field the questions asked include: What is the next step? What are the most promising developments in the field? What needs experimentation? Where is the frontier? Obviously, not all is new in this chapter. Some of the ideas are new and almost untried; others have been long-term goals of the schools but not yet achieved. Still others may be termed "best practice" ideas that have been working well in a few places. All the ideas represent problems that the curriculum worker, teacher, or consultant, faces in his job.

In regard to each subject the frontier problems are discussed in terms of such questions as these:

1. What changes are taking place in the scope of the subject in the elementary school?
2. In the light of newer criteria, is the established sequence for the area defensible?
3. How is the subject related to general personality development?
4. What are the basic instructional problems requiring investigation?
5. What are the materials problems of the curriculum worker in each area?
6. What is the place of the subject area in the school day?
7. What are the problems of evaluating pupil growth?
8. What is the job of improving teacher competence?

8. FRONTIERS IN CURRICULUM MAKING: SCIENCE AND MATHEMATICS

N*ew ideas almost always appear first in an unnecessarily complicated form, and are therefore thought harder to master than they are subsequently found to be. Galton thought the years from twenty to thirty not too long for acquiring a knowledge of the mathematics that had been discovered in his day, most of which in our time any promising student achieves by the age of thirteen. This acceleration is due to the labors of many men As the total amount of human knowledge increases and the journey from childish ignorance to the frontier of discovery lengthens, it becomes more and more important to hasten the process and make the journey as easy as possible. In each generation some of this work has to be done afresh, since some old subjects turn out to be unimportant and some new ones important.¹*

In a text intended for the worker in curriculum development, it is unnecessary to review completely the subject areas. There are excellent texts in each of the subject fields: mathematics, science,

New items in the scope

In the broadest sense, we are after the same thing in the elementary school that we are seeking at the higher levels of mathematics, namely, an understanding of relationships involving size, and quantity, position, space or form, and motion or force. As a tool of increasing refinement in talking about these basic relationships of quantity, size, position, and motion, we develop the meaning of the number system and the fundamental operations that can be performed with it. This is certainly the primary purpose of mathematics at the elementary level, but unless it is developed as a tool for thinking about the relationship above, it becomes only manipulation. The idea that children learn relationships first and the various aspects of the number system later is supported by the work of Jean Piaget.

Basic relationships

In their broadest form these relationships include:

Motion: changes that take place in sizes, shapes, and distances.

Position: distinguishing the where of objects by their relationship to other objects.

Quantity: measuring by describing how many times a standard unit is contained in an object or in a process.

Space: the sizes, shapes, and distances of things.

Number: the logic of the number system as a means of expressing relationships.

Current scope plans

Because the basic relationships are not sufficiently developed to serve as scope for a mathematics curriculum, curriculum workers and textbook writers have developed scope and sequence plans that offer a more detailed picture of the content of the curriculum. Following are the scope plans of four widely used text series:

SCOPE OF MATHEMATICS IN THE ELEMENTARY SCHOOL

I ²	II ³	III ⁴	IV ⁵
Number system	Number system		Number system
Addition of whole numbers	Addition	Addition	Terms and signs Money

THE GROWING EDGE OF MATHEMATICS

The scope of mathematics in the elementary schools is broadening so greatly that it is misleading to continue calling it arithmetic. Every field of mathematics at least potentially has its roots developed in the elementary school. To continue to use the term *arithmetic* is to maintain a semantic barrier to the widening of mathematical experiences for elementary school children. Perhaps it has also contributed to the difficulty of transitions between arithmetic, algebra, and geometry. The logical approach involved in algebra may help pupils with problem solving. Concepts from geometry introduced earlier may make geometry a tool instead of an exercise in memorization. The term *quantitative experience* used alone may suggest neglect of one of the basic functions of mathematics in the modern world: helping us to understand the *relationships* of things.

In modern societies mathematics underlies all technological development and all research in any field. It is such an indispensable tool of thought that pupils who fail for one reason or another to make reasonable progress in it are finding themselves blocked off from an increasing range of vocational choices. The needs of our highly technical society are such that about half of our college students should go into scientific and mathematical fields.

Despite the increasing need for science and mathematics in our own technology and the increasingly competitive world situation there has been very little change in mathematics taught in the schools over the past one hundred years. Now that there is a greater awareness of the problem, we find national and local committees in every part of the country working on new aspects of mathematics curriculum.

In the next few years there will be many significant changes in mathematics and in mathematics instruction. The concept of *sets*, originally developed by Cantor, will dominate mathematics. The separation of geometry, algebra, and analysis will end. Solid geometry will disappear as a separate course. Algebra will be concerned with groups, rings, and fields. Statistical reasoning will be part of mathematics instruction at all levels. Euclidean geometry will give way to three dimensional geometry. Probability and statistical inference will be introduced earlier. At the elementary level all mathematics will be unified, with concepts from the entire field of mathematics taught throughout the grades.

tunity to work with relationship independent of immediate concern for number. (3) Spatial relations in the elementary school constitutes a tie-in with later branches of mathematics and makes the transitions easier because some basic concepts are formed early.

The value of using all the basic relationships of space, quantity, position, motion, and number lies (1) in their use for selecting experiences for children, (2) in their giving a basis for choosing concepts to be developed, and (3) in their use in keeping in mind the basic purposes of mathematics as a study of relationships. Curriculum makers, however, in drawing up scope and sequence plans, necessarily increase the number of items in the scope as a means of further defining experiences to be offered children and also as a means of giving emphasis to some phases of the curriculum. Problem solving, for example, appears as a separate item of the scope on a number of these plans. Actually, this is a method of going about getting the answers or solutions to questions, not a mathematical function only. In mathematics as in other fields, one of the principal goals is training how to think. Some curriculum workers feel it is worthwhile putting problem solving as a separate item in the scope in order to give it emphasis. However, this separation of problem solving as if it were an independent function may be misleading. It may help explain why problem solving does not pervade our approach to a great many aspects of living. Problem solving can be a part of every step in learning mathematics. Learning that adding one to a number gives the next number, for example, can be taught in a problem-solving way or it can be taught by rote. Multiplication may be taught as a rote process or through its discovery as a short method of addition.

The number system as a separate item in the scope is a proper emphasis. In all probability, however, the entire job of making a scope plan would yield better mathematical results if the basic relationships were used as the starting point and then the appropriate experiences for elementary school mathematics derived from these. As a breakthrough technique for a school staff that wants to experiment with changes in the elementary mathematics curriculum, use of the basic relationships has much to offer.

Experimental work on scope plans

A number of attempts to redraw scope plans are going on in many parts of the country. That of San Francisco State's Frederic Burk Demonstration School illustrates some of the points mentioned earlier.

SCOPE OF MATHEMATICS IN THE ELEMENTARY SCHOOL (*cont.*)

I ²	II ³	III ⁴	IV ⁵
Subtraction of whole numbers	Subtraction	Subtraction	Measures Shapes Addition of wholes Subtraction of wholes
Multiplication of whole numbers	Multiplication	Multiplication	Multiplication of wholes
Division of whole numbers	Division	Division	Division of wholes
Fractions and mixed numbers	Fractions	Fractions	Fractions
Decimals and per cents	Money-decimals	Decimal fractions	Processes with fractions Processes with decimals Percentage Graphs
Tables, graphs, scale drawings	Per cents	Per cent	Geometry Banking Buying Investment Public services Insurance Taxes Travel Jobs
Geometry	Geometry	Measure	
Business usage	Social applications		
Use of literal numbers	Measurement		
Measures			
Problem solving			

A number of useful observations may be made on a comparison of the five basic relationships (motion, position, quantity, space, number) with the scope plans above. There is a preponderance of attention on number, while other kinds of relationships are comparatively neglected. Although geometry is included in the scope, its use is very minor. This contrasts markedly with the amount of attention given to the spatial aspects of elementary school mathematics in England. Curriculum workers in the United States are justified in increasing the attention to spatial relations for these reasons: (1) Children are greatly interested in forms, directions, and space. (2) Attention to spatial relations gives the children an oppor-

- | | |
|-------------------------------------|--|
| 8. Creative thinking in mathematics | Learning that mathematics is useful to us in helping us think about things in a different way; seeing that these tools are for us to use in fulfilling our needs, having fun, getting new ideas about the way the tools are set up and feeling free to think flexibly about arithmetic and mathematics; thinking about adding to the body of information and tools now available to us by making discoveries in the field. |
| 9. Problem solving | Learning that there are many problem-solving techniques and that people often solve problems in different ways; learning to analyze situations, locate and identify problems, select appropriate techniques for attacking problems, checking and searching for better solutions. |
| 10. Spending and saving | Buying, selling, and caring for goods; judging values; consumer education. |

Breakthrough methods applied to scope

Some of the items are new; some phases are new; the plan, however, still leaves a great deal to be desired in the way of simplicity and proper relationship to the fundamental mathematical ideas. The approach of the staff in building this scope was an interesting one. Not every staff needs to follow such an approach nor would they have time. However, it is significant in that it represents a breakthrough process that needs to be repeated oftener in education. Although it is obvious that there are already available very usable courses of study and curriculum guides in the field of elementary mathematics and that no curriculum development program needs to start from scratch, there is great value in the break-through process. Break-through as used here refers to temporarily by-passing existing work, courses of study and guides; and going first to mathematics as a discipline, second to an analysis of modern society's need for mathematics, and third to the meaning of mathematics to the individual. By this method overweighting of present practice as a criterion of what should be done may be avoided. In practice many assumptions prevail that would not stand the test of a careful scientific study.

Items of the Scope

1. Number

Definition of Scope Items

Meaning of Number. Count to find a number enumeration; choose group to show number identification; select given number of objects reproduction; find out how many more comparison; recognize objects as a group grouping; show part of numbers regrouping; zero as a beginning number; counting rote, sequence, ordinal; fundamental processes including fractions as parts of wholes and as relationships; historical development of number system.

2. Mathematics in our culture

Social uses in daily lives; effects of mathematical thinking on society.

3. Estimating and comparing

Estimating developing skills of intelligently guessing with quick and available clues; learning the values and uses of estimating; comparing thinking in terms of relationships; how various factors are related and influence conditions, determining relative size, speed, distance; using measuring tools and processes such as subtraction for the process of comparing.

4. Measurement

Repetition of agreed-upon units; uses; tools and units of measure; linear, liquid, dry, weight, temperature, time; exploration of new types of measures: light-years, atomic scale, sound waves, radio waves.

5. Graphic representation

Learning the values of expressing certain relationships and quantities graphically.

6. Form or space

Learning the characteristics and uses of such forms as circles, triangles, cones, and so on; learning the language of form; using ideas of space in construction, in observation of nature, architecture, art.

7. Fractions

Common, decimal, percentage, ratio; fundamental processes.

research is already available. The answers, however, are not all in, nor is existing practice entirely defensible. There is probably more uniformity of practice with respect to grade placement than our knowledge of the matter warrants. Once courses of study and guides are set up with a pattern of scope and sequence it is very difficult for textbook makers to depart from them. We have the somewhat disturbing spectacle of text writers, authorities in their field, producing texts of which they do not approve in a great many respects. However, texts representing marked changes would find slower acceptance by the schools.

CRITERIA FOR PLACEMENT. What are the usable criteria? Mathematics as a logical discipline has its own succession based on a step-by-step series of operations to be understood. This helps set up the order but it does not establish grade placement. An extensive study is reported by Stokes⁶ in which he combined a survey of experimental evidence, courses of study, observational data from classrooms, and judgments of supervisors and principals. He has set up a sequence for five to eleven years old. One of the limitations, of course, with nearly all current methods of studying placement is the strong restricting factor imposed on the studies by the fact that the children studied are already in a conventional program. What and how children could learn is studied by virtually no one but Piaget.

The Santa Rosa Elementary Schools organized their thinking on sequence and scope in terms of broad grade levels: primary scope and sequence, intermediate, and junior high school. Within each of these levels a pattern is worked out without grade level designation. It is a move toward elimination of the absurdity now found in a number of large systems wherein teachers are not allowed to go beyond the arithmetic budget assigned for a particular grade level. In some schools able pupils may mark time for two or three months waiting for the end of the year.

The Frederic Burk Demonstration School Staff set up a sequence of experiences based on their experience with the kind of children in this school. One of the several difficulties met in determining adequate placement and sequence arises from the fact that considering the current changes in ways of teaching mathematics, the extensive use of concrete materials, the development of concepts, we aren't as sure what children *can* learn as we once were. Our experience indicates that they *can* learn much more than we thought under the older drill and rote methods; they can, par-

In making its breakthrough, the Frederic Burk staff went back to read modern mathematics and logic, Whitehead, Russell, Cohen, Northrop, Riemann, Einstein, Piaget, and others in, hopes of breaking through some of the ideas now current about the scope of elementary school mathematics. For two years after the first attempt to set down the meaning of this reading and discussion the staff was still developing the application of the material to the classroom.

Experimenting with changing scope

The difficult problem in re-examining the scope of the mathematics program in the schools involves our own experience. Most teachers have had a conventional arithmetic curriculum experience. To challenge this the individual must find a way to break with that experience. One way for the individual or committee to do this is to select a mathematical area, for example, space or geometry, for study. Get a good mathematician to suggest things to read, set up a discussion group to go over basic concepts in space relations. Build a list of space concepts on index cards.

Try out the development of these concepts in your school. For example, try with a second or third grade, as Miss Robin Bristcoe, San Francisco State College Demonstration School, did, the idea of a circle; how can you tell if a figure really is a circle; radius; what happens to the radius as the circle gets bigger? diameter; how can you draw a diameter; circumference; how much farther around is a circle than its diameter is long?

Read Chapter 2, in Clifford, W. G., *Common Sense of the Exact Sciences*; Fehr, Howard, "Breakthrough in Mathematical Thought," *Mathematics Teacher*, January, 1959, pp. 15-19; or Whitehead, Alfred N., *Introduction to Mathematics*. After you have tried this or a comparable new idea, put down your ideas as to order of concept development, grade placement, children's interest, social usage, next steps to try. Gradually explore other aspects of mathematics in similar ways. The theory of sets, which is revolutionizing mathematics now, has implications for scope that will need to be explored sooner or later. Why not now?

NEW PRINCIPLES OF SEQUENCE. Setting up a sequence of experiences in mathematics for elementary school children is a problem on which much

ment with the new conceptualizations described in this chapter and elsewhere.

STUDYING PROBLEMS OF SEQUENCE. Because the elementary school mathematics program has been restricted, pupils show less variation, less range, in mathematics achievement than in other school subject areas. Curriculum workers might well take another look at placement practices. To do this, first study the range that does exist as measured by diagnostic or survey tests of your own carefully made tests. Although enriching the program with material from all mathematical fields (scope) is probably of first importance, a placement study is also needed. Look at the variations on the nonverbal part of aptitude tests used in your school. How do they compare with the actual variations in nonverbal areas of school achievement? Experimentally, "take the lid off" the quota designated for a fifth grade or an eighth grade for example. Let each individual go as far as he can. Use parent resources, student assistants, or other available people to help. Encourage students to diagnose their own weaknesses and plan developmental programs. Build up a library of mathematics books and equipment among which pupils may choose what they need. At the end of the year again assess *progress, variations, and evidence of changes in attitudes.*

Personality development and mathematics

The relation of learning to problems of personality development is a newer concern of educators. The psychology of mathematical learning is poorly developed, and its relationship to general personality development has been explored by only a few researchers. There have been a number of clinical contributions. As portrayed in Chapter 2, the success or failure of the child in solving the problems of growing up is related to his ability to devote energy to learning in school. Much learning involves the subordination of immediate pleasure to the reality of having to learn something that may involve immediate pleasure but a larger proportion of remote pleasure; because the elementary school age child is only slowly incorporating from his adults his own built-in feelings of the desirability of learning, his attitude toward his mathematics teacher is crucial. If he finds he can identify with the teacher then he will possibly be able to find his need of the teacher's approval stronger than his inclination to resist expenditure of energy in learning mathematics. The large number of teachers who dislike

ticularly, learn a great deal more about relationships than we have taught before.

LIMITATIONS OF THE SOCIAL USAGE CRITERION. There have been a number of studies indicating how little mathematics one can know and still survive. There have also been many studies indicating that the processes can be delayed with economy of learning time. There have been visible tendencies to overgeneralize on such studies and apply them to all students. The demands for mathematics vocationally and for the citizen are so very extensive that the poverty-stricken curriculum sometimes suggested by the studies does not make sense. Delay of processes may be well advised if in their place there is a provision for concept development leading to full understanding of the processes when introduced. Sometimes forgotten is the possibility that if people knew a great deal more mathematics they could also employ it to explore the universe for uses for it.

SUMMARY OF PLACEMENT CRITERIA. There are a number of criteria useful in thinking about setting up a sequence:

1. An understanding of relationships comes first, before any attempt to ask the child to refine these relationships through the use of numbers.
 2. The content of the learning experience should have meaning to the child in terms of his own stage of personality development.
 3. Appropriate experiences with all the basic aspects of mathematics should occur at every level.
 4. The orderly development of mathematics as a logical system helps us to set up some sequences, but it does not determine grade placement.
 5. The selection of method and content to be included in a learning experience should be influenced by the kinds of social uses children make of mathematics at various ages. However, the employment of a social usage yardstick alone for scope would yield a mathematics curriculum of extreme poverty. Its use for determining sequence is also only partial.
 6. No sequential pattern is appropriate for all learners; most children devise their own methods of discovery if they have been allowed to; many take leaps in thinking, omit some logical steps and fill in later.
- That there are other criteria that are usable is, of course, very true. The greatest need in curriculum development in mathematics now seems to be a willingness to break with the traditional approaches and to experi-

some children the certainties of mathematics seem to offer an intrinsic challenge. Acting-out children in juvenile detention homes, for example, like mathematics. Highly verbal children, who often get their satisfactions from reading and from talking, like to approach mathematics through discussions, conversations, logical development of the relationship being studied, before getting down to expressing the matter in numbers.

STUDYING PERSONALITY FACTORS. Some of the factors that influence mathematical achievement are buried in the early experiences of children. The use they make of mathematical experience is deeply personal. The school's role here is largely that of an observer and a guide in vocational selection. Factors such as interest, attitudes, values, sibling relationships, parental values and interest, confusion over male-female roles, can be studied. Using a questionnaire try to get a best-liked subject, subject believed to be most valuable, parents' attitude toward mathematics, who is the best at mathematics in the family, which is the child's strongest subject. Study your data and compare with classroom achievement and other behavior.

Creativity in mathematics

Few of us have any notion what it is to be creative in the field of mathematics. Partly because of this we have tended to emphasize rote learning and deductive kinds of teaching in mathematics. Elementary school children generally are not going to create anything new; the important educational problem is the preservation of the child's attitude that he can be a discoverer. The emotional ratification arising from intellectual pursuits can be secured in part at least by letting the child experience the delight of discovery. Discovery, or rediscovery, has to be rewarded warmly by the teacher also so that around the "creative" situation a glow of good feeling and achievement may be built. Of such bricks is the intellectually inquiring mind composed. Poincaré and other great mathematicians have pointed out that they prefer, when studying a previous work, to think it out and rediscover it by themselves. The connection between problem solving and creativity in mathematics is plain. Hadamard's stages in the creative process parallel in some ways the problem solving process:²⁰

1. Consciousness of a problem to which a solution is needed.
2. Preparation—the collection of all the information available in the solution of a problem.

or fear mathematics has become a factor in children's attitudes toward the subject. The effects of teachers' attitudes are widespread. Like all other attitudes, dislike of mathematics is readily communicated to children either directly or unconsciously. It contributes to routinized teaching of mathematics and also to outright neglect. That a large proportion of elementary school teachers are women may have a significant effect. Certainly with many exceptions, our culture does not encourage women to use mathematics in their functioning. As the complicated interrelationships of mathematics and personality functioning become more apparent the problem of women as teachers of mathematics can be seen as involving more than simple cultural emphasis on the roles of women versus the roles of men.

Not only the relationships of child and parent may be involved in learning but also those among siblings. Among siblings the desire to be different may urge one child to accept mathematics as important and another to reject it on that account. Sibling rivalry may produce overachievement as a result of the child's desire to be loved more than his competing siblings. A boy whose mother regards herself as being good at mathematics may find it necessary to reject it for what seems to him the essential femaleness of mathematics. The same may be true of a few boys in relation to women teachers. Maternally overprotected children tend to do poorly at arithmetic but well in reading. On the other hand, the extensive biographical studies of the Planks indicate that when children are unable to break their strong ties with their mother, difficulty in mathematics may occur. Or to say it another way, the child cannot free himself for symbolic manipulation because the first and primary person has remained so real and actual that the most important symbolic removal cannot occur without conflict. Women who have become great mathematicians appear to have learned it from men and to have rejected the mother relationship. Conventional remedial procedures in the elementary subject often fail because the difficulty lies not in the methods of teaching but in the relationships of the child with the important people in his life.

During latency a great deal of motivation to learn anything arises among the relationship between the pupil and the important people in his life: his teachers, parents, siblings, and friends. Where these relationships are supportive of learning, the pupil is motivated to learn, endures discomfort, delay of reward and pleasure in order to identify with and win the approval of these important persons.

The pupil also wants to learn in order to become autonomous. To

We are still dissatisfied with the results we are achieving in problem solving. This may well be due to its separation from other aspects of mathematics. Virtually everything in mathematics can be taught from a problem solving approach. When we see problem solving as the *core of the whole approach* to mathematics instruction we will probably make progress in helping children.

The fifth major instructional problem is that of taking advantage of mathematics found in other aspects of the elementary curriculum. This is not to imply that mathematics should or can always be taught integrated with other subjects. As a discipline and for its meaning in relation to the functioning of individuals it needs a separate item for its development.

In teaching space relationships, the elementary school has made little progress. There are now some studies of this phase of mathematics going on in the elementary schools. It is an important tool for understanding relationships, those within space, for example.

A seventh instructional problem is the teaching of symbols other than numbers. This beginning approach to algebra can help the transition into other levels of mathematics. The symbolic nature of all numbers becomes apparent when we work with other kinds of symbols than familiar numbers.

Mathematics in the school day

There is rather general agreement, and not much research evidence, that mathematics should be taught as a separate period. In addition it needs to be applied in science, social studies, music, and other experiences in school. It seems likely that the separate teaching of mathematics allows the pupil to derive certain satisfactions from his achievement in it. This is supported by the need of latency age children for a sense of competency. If mathematics is always diffused among many other things, some of these values to the individual may be lost. Furthermore, mathematics is a way of thinking in itself that can be developed more easily with full attention to the subject.

A short period for teaching mathematics is probably a deterrent to understanding. Laboratory approaches to mathematics require time for the pupils to work out things for themselves. As Whitehead⁷ has said, "The result of teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illuminated with any spark of vitality."

3. Incubation—the period of subconscious or unconscious reorganization of the information and the problem.
4. Illumination—the emergence of insight into the solution of the problem.
5. Verification—the learner here fits the solution into the general context of mathematics.

The classroom conditions that allow for discovery are not novel; they include, in addition to the special relationship of teacher to child, (1) an environment with a variety of materials, (2) an unhurried atmosphere in which the expectation is that everyone will have time to work out things for himself, (3) an organization of the day favorable to concentrated attention rather than scattered attention.

Key instructional problems in mathematics.

The first major instructional problem needing further curricular development is that of teaching simple relationships that grow more complicated as pupils mature. Gradually these relationships are clothed in the increasing exactness that the various uses of number allow.

In this jet age primary teachers help children handle the relationships they are interested in in a meaningful way before they have the knowledge to define them with exactness. "How fast does a jet go?" "How much fuel does it use?" ask a group of second graders. Here the teacher has to resort to two kinds of simplifications: "It goes *faster* than a regular passenger plane but *slower* than rockets. It can go faster than sound travels but much slower than light. Or it goes three times as fast as a regular plane, or one-half as fast as a rocket, or two times as slowly as a rocket. It carries as much fuel as three railroad tank cars." Relationships need to be planned early and their development kept up throughout the grades.

Teaching the number system in a meaningful way is the second major instructional problem for the curriculum worker. It can be taught as a problem solving procedure. Grouping of objects becomes the basis for the fundamental processes. Subtraction is seen as regrouping, multiplication as a form of addition, division as a form of grouping and of subtraction.

In teaching measurement, the generalization that measurement is the repeated use of some agreed-upon unit of measure is an important goal. "How many candles until three o'clock?" "How many Joes wide is the room?" "How many pogo sticks across the playground?" "How many inches tall?"

are much clearer now than a decade ago as to what science is; there is a general willingness to apply scientific thinking to all of life, including the interactions of human beings and value systems. The impact of this on selection of content and on instruction will be great when it is generally applied. A second problem of the curriculum maker is the selection of experiences from an enormous field. Tendencies to push for information more than for concept development, tendencies to "tell" children rather than allow them to pursue their own logic of discovery, tendencies to use textbook methods alone, all these and many others arise from the sense of pressure science teachers feel. "There is so much to teach."

The problems of scope and sequence are most difficult. Scientific developments are so rapid and the sources of children's information expand so continuously that a fixed concept of scope or sequence is an absurdity. A third grader of a decade ago had only a fraction of the knowledge a child in the same grade has today. Television, radio, and magazines rapidly make rigid notions of placement out of date. Yet there must be a planned curriculum, particularly for public school situations where mass and mobility alike challenge the efforts of the curriculum maker. Providing for a planned flexibility is certainly at the growing edge of science education.

A fourth problem is that of tying scientific methods into the value system of a democracy. There are two facets to this: the first is getting commitment to the use of scientific method in the solution of the social problems of a democracy, and the second is getting understanding that the achievements of traditional science are not amoral, that they all have effects on the welfare of people and pose new problems for revision of institutions no longer serving the values of a free society.

The fifth problem at the edge of things has to do with concept development versus a fact-stuffing program. It is certainly probable that much of the miscellaneous experience with science in the elementary school has very little relation to genuine increase in power to think. It has been proposed that we teach mathematics in the best problem solving way we can devise and defer science to later years. Although there is not likely to be agreement with such a proposal, it may serve a purpose in emphasizing that *facts* are not *science*. The creative task here is to develop experiences that allow for growth in concepts and generalizations through inductive procedures, and then build other experiences that involve the application of principles (generalizations) to new situations. Most important, of course, is the knowledge of what kind of thinking we are doing. This is not a

Teacher competence in mathematics

This is a ticklish problem. It is quite plain that the mathematical understanding of teachers on the average is not adequate for the kind of program we have been describing nor for the new demands of the space age. But the adults' competence in the knowledge area is not a question that is easily handled. Teachers would like to increase their competence, but regular college mathematics courses are not useful for them. Instructors who can work understandingly with adults whose fears and frustration surrounding mathematics are of long standing are still rather rare, but a modern program will fail if something is not done about it. Institutes and workshops of an informal, casual nature help teachers accept the kind of help they need. Visits to establishments using mathematics in their industrial process, informal meetings with mathematicians who can make their subject understood, work on specific teaching procedures aid in building teacher competence. The use of the Cuisenaire materials is an aid to teacher growth also.

THE GROWING EDGE IN SCIENCE*Meaning of science*

"First-hand knowledge is the ultimate basis of intellectual life."¹ Basically science is a way of thinking, a way of organizing the data of the segment of the universe one has chosen to observe. It involves noting similarities and differences in things observed in order that they may be grouped or categorized, so that group A is seen to be made up of things with some common qualities and lacking qualities found in group B. It also means finding relationships between events, between characteristics. Out of the knowledge of the way events interrelate, the observer or experimenter learns to predict with varying accuracy that if certain conditions occur certain events will arise from these conditions. Observation, categorization, differentiation, interrelationship, theory, and hypotheses are thinking activities that make up science as a way of thinking. As a method of thinking, science applies to social questions as well as to the problems that make up the physical and biological sciences.

Where are the growing edges? In this field it is not difficult to find them. In fact every facet of it appears to be flux. As curriculum workers we

to live in this society as elementary age children; and (4) the kinds of science knowledge and attitudes basic to the science curriculum of the secondary schools and also appropriate for elementary age children.

In describing the scope there is increasing use of large patterns or topics as organizational centers. New York State is organizing science around ten such items:

1. Kinds of living things
2. Keeping healthy
3. Using magnetism and electricity
4. Common chemical and physical changes
5. Lifting and moving things
6. Energy from the sun
7. The atmosphere
8. Earth and sky
9. Rocks and soil
10. Survival of living things

Craig uses patterns of a different sort, including such topics as vastness of space, universality of change, adaptation and interrelationships. The National Society for the Study of Education in its forty-sixth Yearbook suggested six broad areas for study.* Around the following areas principles governing physical and living phenomena would be grouped:

The Universe: Study of the stars, the sun, the moon, the planets and their interrelationships; causes of day and night, seasonal changes, tides, eclipses, and (less completely) of the vastness of the Milky Way and of galactic systems beyond our own.

The Earth: Origin, formation of mountains, weathering of rock into soil, erosion, volcanism, prehistoric life, and the forces that are changing and have changed the earth.

Conditions Necessary to Life: What living things need in order to exist, how they are affected by changes in the environment and the struggle for existence.

Living Things: Variety, social life, adaptations for protection, life cycles of plants and animals, how they obtain food, their economic importance, and man's influence upon nature.

Physical and Chemical Phenomena: Common chemical and physical phenomena such as light, sound, gravity, magnetism, and electricity; changes in matter, and phenomena associated with radiant energy and atmospheric changes.

hasty process. As curriculum workers we shall have to be satisfied with fewer experiences more carefully and intensively developed. This will also be easier to do if further research can yield some clues as to when children can learn these things. Here again the existing research on placement of concepts and generalizations, as in mathematics, cannot be taken too seriously. As the experience of children with scientific concepts increases outside of school, we should expect to find that research findings on placement would tend to become outdated. Readiness to learn science concepts is like other kinds of readiness—dependent on kinds of prior experience, as well as on general ability.

The growing edges of the field include (1) a recognition in the curriculum that science is basically a way of thinking, (2) the development of a planned but flexible program, (3) the improvement of instructional practices to allow more discovery—problem solving—by children, (4) linking science as a method and in its relation to technology to the value system of a free society, and (5) careful curriculum organization to provide for learning concepts and generalizations of wide applicability and at the same time reducing the pressure to acquire myriads of facts interesting and important in themselves but repetitive or irrelevant in terms of the ideas central to scientific thought; in the elementary school this begins with the selection of large patterns, for example, vastness of space, adaptation, or universality of change, in relation to which experiences building toward generalizations can be organized.

Current scope plans

The scope of science curriculum, as in other content areas, tends to lag substantially behind knowledge in the physical and biological sciences. The lag is largely due to two kinds of influences: normal delay in teachers' keeping up with the field, and the delay in getting new material into textbooks and curriculum guides. Both are peculiarly the curriculum workers' problems.

The criteria for deciding on the scope of science in the elementary school include (1) the existing scientific knowledge; (2) the aspects of existing knowledge that can serve the needs of elementary age children for understanding, feeling at home with the physical and biological world, and feeling a sense of power or control in relation to these realities of their environment; (3) the kinds of science knowledge and attitudes required

2. To help children strengthen their ability to make relevant judgments and discriminate among values through the use of scientific method.
3. To help children develop, through growth in scientific literacy, an appreciation of the contribution science makes to our cultural heritage.
4. To promote, through understandings of science, objectivity and flexibility in creating and strengthening of one's attitudes.
5. To help the children use science as a tool in achieving sound mental health.
6. To cultivate in children interests in science which may be used as leisure time activities.
7. To help the child develop the scientific understandings which are needed for the public solution of world problems.

These are further broken down into teaching objectives that emphasize various aspects of scientific methods:

1. Skill in observing differences and similarities (for example, in plants and animals, rocks and minerals, compounds and mixtures, planets and stars, weather and climate).
2. Skill in classifying (for example, according to structure, function, properties).
3. Skill in estimating (for example, size, distance, weight).
4. Skill in using science equipment and materials (for example, rulers, telescopes, lever).
5. Ability to use the written material of science (for example, vocabulary of science, organizing written material, reading).
6. Ability to select and evaluate information (for example, selecting sources of information, judging validity of information).
7. Ability to understand the principles of science and the laws of nature.
8. Ability to understand the contributions of men of science.
9. Ability to use the problem solving method.
10. Ability to recognize the aesthetic aspects of science.
11. Ability to understand the needs of living things.
12. Ability in using natural resources and products of man.

Many science educators have sought to describe the scope of elementary science by listing appropriate principles. Although Leonelli¹² was able

Man's Attempt to Control His Environment: In gardens, on farms, in orchards; inventions and discoveries, use of power and of materials; his control over living things; his study of places he cannot reach directly; and other such topics.

The scope of science experiences is not defined alone by a broad content outline; it is pertinent to raise such questions as those discussed by Zim.⁹ "To see if there is science in your program ask these questions: (1) Can children in your classes ask all kinds of questions and get help from the teacher in finding out the answers? (2) Can the children try out things for themselves (within reasonable limits of safety) or are their activities preselected and stereotyped 'experiments'? (3) Do the children have the time and materials to get first hand experience with many aspects of the environment? (4) Does your science program provide children with an opportunity to draw their own conclusions from evidence they have gathered and test these conclusions logically? Or is it a matter of right or wrong answers? (5) Do your children have access to a range of authorities, a variety of books, and to the full spectrum of community resources? (6) Are your children graded (if they must be) according to their ability in observation, asking pertinent questions, experimenting, gathering and applying data and drawing conclusions? Or are they graded only on the recall and repetition of facts?"

In talking about what is important to teach in science, Sawyer¹⁰ says that the cardinal principles include (1) teaching so the child comes to assume order is characteristic of environmental phenomena, (2) teaching the idea of careful observation and of experimentation, (3) teaching the way in which general laws are arrived at from inductive thinking, (4) teaching the idea of a theory based upon observation and experimentation, and (5) teaching the way in which theory can be used to increase knowledge. What he is saying, of course, is that the most important aspect of science is scientific method.

In the Palo Alto¹¹ science curriculum only two of the general objectives suggested seem to be largely concerned with content. The others are directed at the individual as a flexible, objective person with power to use scientific attitude and inquiry as a means of achieving personal development and the solution of society's pressing problems:

1. To develop science skills which help individuals meet those life situations involving the use of science.

A third factor in building scope is the environment in which the school exists. The community is a science resource of great importance. The school depends on it for many of the direct experiences needed for understanding the applications of science. The scope of science in a rural community will be somewhat different from that in a school at the edge of an industrial development.

A fourth factor to be considered is flexibility in the overall plan. Solar energy and jet propulsion have more place today than they did a decade ago, and fusion power and fuel cells may have more of a place in the scope tomorrow. Nevertheless there must be a planned scope subject to change with times and with the environment.

The curriculum maker has three resources which he can use in a complex, planful way to create experiences for children:

I	II	III	IV
Knowledge of how the individual relates to his environment, how he uses it, how the method of science is related to personal development.	Realities of the universe: the earth, chemical phenomena, living things, physical phenomena.	Concepts and generalizations involved in understanding the universe.	Child experiences with aspects of the physical and biological environment.

From his knowledge of how children's personality develops, the curriculum worker recognizes the many ways in which knowledge and skill in relating to the realities of the environment can be learned. The adult's function is to find ways to shorten the path to knowledge and skill by helping the child have experiences which lead to concepts and generalizations. The experiences are built in terms of both the adult's knowledge of how children learn and the child's need for autonomy in the learning process.

Studying problems of sequence

The problems of sequence of experience is unresolved. Nearly all studies of scope and placement have concluded that there is little current agreement, although as science education materials continue to develop there seems to be a tendency toward more agreement in the courses of study. Whether this is merely a reflection of the introduction of professional materials or whether there is some empirical concurrence on scope and placement is

to secure substantial agreement on principles to be taught somewhere in the elementary school, no agreement was possible as to placement. The use of principles as a basis of scope has many values. A few of Leonelli's principles are listed below:

1. Like magnetic poles always repel each other and unlike magnetic poles always attract each other.
2. Sound is produced by vibrating matter and is transmitted by matter.
3. The more rapid the vibration of a body, the higher the pitch of the note emitted by it.
4. The darker the surface the better it absorbs light.

Such lists of generalizations or principles are resources for the curriculum maker as he begins to organize learning experiences in science. They may suggest experiences; they may indicate learnings that can be pointed out in connection with experiences that children are having in science or other areas. As the sole determinant of scope or sequence they would fail, of course, because children's interests and their readiness and ability to learn the generalization at the particular age are a necessary part of such decisions.

Factors in building the scope

Science is a way for children to understand and control their environment, to relate to it without fear but with confidence and with trust in themselves. The methods of science are important for children's resolution of the normal problems of growing up. The objectivity of the scientific approach assures children of the order and reasonableness of the world about them, increasing the sense of trust in others and in themselves. Knowing *how* to go about finding out things increases the sense of autonomy. Knowing and feeling that there is always cause helps children develop the habit of looking for reasons for the things that happen to them, freeing them from some sense of helplessness.

A second factor in building the scope is the content of the physical and biological sciences. This is to some degree constant, but there are always changing elements in it. As knowledge increases ways must be found to shorten the long process of learning the necessary major ideas in science fields. Breaking the fields down into concepts and generalizations or principles helps with this shortening process.

liness and certainty satisfy the search for things and ways that offer the security of trust in oneself and in the reasonableness of things. At the same time the methods of learning that can be emphasized in science—observation, experiment, trial—offer the child autonomy in his learning.

It is, of course, possible to teach science in ways that diminish a child's sense of trust. We can teach day and night in a way to show precision and certainty of the earth's turning in space; we can also teach that we are hurtling through space in a nameless void at incredible speeds with unknown dangers around every turn. The latter is the approach to science made by fear-ridden children whose pathology leads them to use the unknown aspects of the environment as the focus for their terrified fantasies.

A good science curriculum can contribute toward a more wholesome and comfortable attitude toward change. Science helps the child see the order, rhythm, and inevitability of change. The water cycle, the rise and fall of mountains, the life cycle of every living thing, all is subject to reasonable, patterned, and often predictable, change. The science curriculum can serve the purposes described by Erikson¹⁴ below:

"A child who has just found himself able to walk, more or less coaxed or ignored by those around him, seems driven to repeat the act for the pure enjoyment of functioning, and out of the need to master and perfect a newly initiated function. He also acts under the immediate awareness of the new status and stature of "one who can walk," with whatever connotation this happens to have in the coordinates of his culture's space-time, be it "one who will go far," "one who will be able to stand on his own feet," "one who will be upright," or "one who must be watched because he might go too far." The incorporation of a particular version of "one who can walk" into the ego is one of the many steps in child development that (through the coincident experience of physical mastery and of cultural meaning, of functional pleasure and social prestige) contribute to a more realistic self-esteem. This self-esteem grows to be a conviction that the ego is learning effective steps toward a tangible collective future, that it is developing into a defined ego within a social reality. The growing child must, at every step, derive a vitalizing sense of reality from the awareness that his individual way of mastering experience (his ego synthesis) is a successful variant of a group identity and is in accord with its space-time and life plan. In this children cannot be fooled by empty praise and condescending encouragement. They may have to accept artificial bolstering of their self-

difficult to know. One is inclined to think that it may be the former. The various studies of placement by Navarra, Oakes, and Haupt indicate that the age at which principles can be learned depends upon children's previous experience, upon the method used, and upon what is required as evidence of learning.

In a sense continuity can be derived only when the teacher understands how a child grows and reasons. Not infrequently curriculum is built to satisfy adults of the community and the child is overlooked. Placement must remain tentative, experimental, and particularly relevant to the children with whom the teacher works.

Boyer¹³ has suggested some useful criteria which in most ways are an acceptable concluding statement on factors involved in sequence:

1. Flexible but definite planning.
2. Balance in treatment of several learning areas, including the provision for some science-centered learnings at twelve grade levels.
3. Functional integration of science learnings with the learnings in other areas of the elementary school program.
4. Balance in the variety of activities in which children engage.
5. Provision for children's needs to choose and solve their own problems—to explore, manipulate and experiment with the phenomena of their local environment.
6. Growth at an individual rate and making hypotheses as well as dramatizing social experiences.
7. Provision for children to carry on science activities in a manner that promotes their needs for social interaction.
8. Vertical planning with placement on learning common science principles, skills, attitudes, and topical areas with a growing depth of understanding through these twelve years.
9. Cooperative planning of the science curriculum by the whole school personnel.
10. Continuous evaluation of the science curriculum.

Studying personality factors

In the growth of an awareness of self in relation to the physical environment, science has much to contribute. This is reality which can be controlled, experimented with, modified according to orderly laws, understood. Its order-

we recognize the child whose drive for originality, for doing something no one else has done, may simply cloak a difficulty in learning existing facts and techniques. Or it may represent hostility to all existing authority.

The need for self-knowledge is particularly great in those who may choose science as a career. The fantasy of children about achieving in science, a common one, may serve as valuable a function as any achievement fantasy, but it may also be a Pied Piper leading to futility. It is interesting that Anne Roe has found that, typically, physicists and biologists grew up in families with a minimum of group social activity. The meaning of science experiences to the child must be noted with care. Where there is autonomy of the learner, much can be learned by the teacher about the significance of a child's approach to this aspect of reality.

Key instructional problems in science

There are at least four key problems of instruction. The first of these is teaching science as a method of thinking. This embraces such terms as problem solving, critical thinking, scientific methods, inductive processes, or deductive processes. The curriculum problem arises from the need to select materials and organize experience for this purpose.

The first scientific method children employ is observing, a respectable method and not so simple as it seems. For long periods of history men refused to believe what they saw, preferring to live by their preconceptions. Simple observation shortly leads to noting similarities and differences and classifying things accordingly. Finding the answers to problems by using authorities, by trying out alternative solutions, or by controlling the situation are different aspects of scientific method. Teaching children how to generalize after a number of experiences involving the same kind of problem is another part of this instructional process. After studying many rocks, for example, children at the third grade level can draw the generalization that "rocks are made up of many different kinds of materials." Or, using a generalization such as "quartz will scratch glass" may proceed deductively to find out if a particular rock in hand is quartz or not quartz.

It would be helpful then if the various terms now in use, critical thinking, problem solving, analysis, inductive processes, deductive processes, could be combined under "scientific methods" and properly seen as ways of getting at truth appropriate to different situations and with different

esteem in lieu of something better, but their ego identity gains real strength only from wholehearted and consistent recognition of real accomplishment.

Navarra¹⁵ says that science can be thought of as the content through which the child can gain understanding of his environment. In the process of interacting with his environment the child develops concerns which he copes with through observation and interpretation of events in his surroundings. If the child is unable to make satisfactory resolution of his concerns, emotional difficulty may result.

The pre-eminent factors in relationship between science and development of children seems to be that information—right or wrong—should not inhibit the child's inquisitiveness or impair the child's ability to resolve his concern in a satisfactory manner.

As with other aspects of reality, science lends itself to neurotic distortions by children and, of course, by the adults who select it as a field of endeavor. Although the elementary school is by no means the time when vocational selections are made, the beginnings are here. Awareness on the part of the teacher of the particular patterns of personality functioning that may be served by scientific preoccupations will help children relate to these experiences in a normal way. Kubie has outlined the process through which a young scientist makes his vocational selection typically. A gifted child develops neurotic tendencies inhibiting his aggressive and psychosexual development; he is intellectually stimulated by some significant adult in his life—teacher, parent, friend—and turns away from athletics to books. If success follows on these scholarly efforts, during adolescence, he may restrict himself to intellectual activity. The drain of laboratory time also results in putting all emotional eggs in the intellectual basket. A sense of security and self-esteem come to stand on one leg. When original research finally begins it is typically supercharged with many irrelevant and unfulfilled emotional needs. Work under the whiplash of unsolved unconscious conflicts means work with desperation and it may develop that even success may be followed by depression because it leaves the basic emotional problems unsolved.

Kubie is talking about many, but not all young scientists, of course. For the curriculum maker and teacher the importance of this is to again point up that human beings make use of the knowledge in ways peculiarly suitable to their own pattern of functioning. Even in the elementary school,

ciple, a scientific basis for values is discoverable. Some values appear to be as much 'given' by nature as the fact that bodies heavier than air fall."¹⁶

Northrop maintains that "The norms for ethical conduct are to be discovered from the ascertainable knowledge of man's nature, just as the norms for building a bridge are to be derived from physics."¹⁷ Kluckhohn goes on to say that "To work out this problem in detail will require at the very least, a generation—if the best minds in many countries will give themselves to the task. There are endless complications and possibilities for distortion, especially through oversimplification. The key question is that of the universal human values The discovery and ranking of the universal values can never rest simply upon counting and placement in an assumed scale of cultural advancement."

For elementary science, and of course for later science, there are many implications in this problem for the curriculum worker. Science as an "insensate beast," an automation driving mere human beings before it, is an obvious absurdity useful only for shielding those who want to avoid the ethical connotations of their application of scientific thought. The notion that science is somehow amoral is a distorting notion. As a way of thinking about a problem it plainly shares the ethical fate of the solution. The initial applications of scientific thought to the important problems of the world were ethical ones. Explosives were devised first as entertainment and to perform useful work, not to kill people; the airplane was intended to carry people faster and farther, not to carry bombs; and the discovery of bacteria was prompted by the suffering of people, not the possibility of mass extermination. The unethical use of the power created by scientific thought is a part of the general problem of education in values.

The curriculum maker has five problems in this connection: (1) showing how use of the scientific methods to solve all kinds of problems protects the rights of the individual and secures his equality; (2) showing how scientific methods help in establishing what is of value; (3) providing for teaching of science in connection with the social studies and emphasizing the effects of scientific thought on the welfare of human beings; (4) providing classroom materials and experiences that help establish scientific thought as a highly valued way of behaving; (5) helping the individual understand how scientific methods help protect the dignity of the individual by submitting questions to the test of truth rather than the power of whim of other human beings. So scientific thinking itself can become a valued way of behaving, integrally related to a democratic philosophy.

degrees of reliability. When we have done this it will also be easier to organize material and marshal resources for instruction.

A second instructional problem arises from outdated and inaccuracies of science materials in the texts. Although this is improving, inaccurate statements still appear in texts regarding simple information about such questions as why it is colder in northern latitudes, or do things sink to the bottom of the ocean or remain suspended.

A part of this problem is also the balancing of the physical sciences and the biological. There is some tendency for the physical sciences to develop in a more adequately complicated way, while the biological sciences may retain too many of the characteristics of nature study. The blending of physical and biological sciences around specific problems of living things would help with this problem.

The third major problem is the organization of experiences for children. Basic to this process is the collection of a "bundle of materials and tools." This includes lists of concepts and generalizations, objectives, analysis of scientific method, information on the meaning of science experiences in the personality development stage of children, information on children's interests and data on the ability of children to master ideas on different levels of difficulty, and knowledge of science content. These are the tools of creation for the teacher, who, in fact, builds with children the curriculum experience.

The unit way of organizing this bundle of tools is probably one of the best ways of doing so. It allows for individual differences, centers the attention on a single problem or related problems, provides for integration with other subject matter areas, and furnishes a "hub" around which the bundle of tools can be used. In poor hands, however, the unit method may degenerate into the happy doing of interesting but unessential things and may lull the teacher into thinking that, because different individuals are doing different things, he has somehow provided for individual differences in a meaningful way. In fact he may have only kept children occupied.

This is an area requiring experimentation. Now that the variables—personality development, interest, conceptualization, interrelationships of knowledge—are better known, adequately complex research can be done.

The fourth major problem is that of science and values. For a long time we have been saying that democracy involves certain values and that the scientific methods are essential in the democratic way of life. "In prin-

A sixth grade concerned with a unit on bread would be concerned with science topics further along on the spiral of difficulty, for example:

Finding out about yeast as a plant.

Finding the nature of the yeast reaction including the elementary chemistry of the carbon dioxide-oxygen cycle.

Finding the nature of the chemical reaction of sodium bicarbonate and water or acid.

Studying chemical reactions of baking and cooking.

Finding the physical principles involved in mixing gases into dough.

The Contra Costa County¹⁹ science curriculum for elementary schools is planned around the existing social studies units almost completely as a solution to the problem of scheduling. Topics that cannot fit very well into the social studies units, for example, the solar system, volcanoes, or the moon, are treated separately.

In thinking about any subject area in the school day, the basic consideration is the day as a whole. There must be balance; there must be time for creative thought; there should be stimulation. The day as a whole is the unit for planning. As different subjects are crowded into the program, the proper defense is a day that, in terms of learning and mental health, makes sense. Science can be sometimes a separate subject, sometimes integrated with the social studies or other areas.

Teacher competence in science

Teachers shared with much of the population an inadequate background in recent scientific information when the new pressures developed on the schools for updating science education. Elementary teachers in particular have been "subject-matter hunters," the incessant demands of students in a modern classroom kept teachers digging for more information, but science was the most pressing. The means of encouraging teacher competence in science have now been broadly set and include the following:

1. New updating courses in science, especially for teachers.
2. Increase in material in teachers' professional libraries.
3. The employment of science consultants to help teachers with science instruction, particularly content.
4. Subsidized summer school experiences in science, subsidies from districts, states, and the federal government.
5. Field trips in science arranged by districts.

Science in the school day

The burgeoning of elementary science has raised the important question of what can be omitted. The pressures under which the schools are placed on this account militate against helping the child become a creative individual.

Although we want the utmost accomplishment in areas of competence because children need this sense also, what we are basically after is personality development—of which competence is a part—such that the individual comes to the surging adolescent years with energy free to learn, with power and tools with which to think. The overcrowding of the day with subject matter can only raise doubts and anxieties in both children and teachers leading to poor learning and harassed teaching. We probably need to try to do less and do it more thoroughly. This requires that the selection of what we teach be guided by key concepts and generalizations.

The answer to the question of science in the school day at present is that it can probably best occur in several combinations. When mathematics in the elementary school becomes really a unified subject, science can be more successfully taught in connection with it. Under the current practice in mathematics curriculum, the opportunities for integration are not adequate.

Depending upon the kind of topic of unit being learned, science should occur in the schedule in such a position that at times it may be taught in connection with the social studies and at other times in connection with mathematics. There should also be times when the science unit is pursued without integration with other subject areas. The special opportunities for teaching science, such as show-and-tell periods, health and safety program, and in free periods, can all be utilized if an over-all flexible plan for science exists. Certainly there are times when science should be brought into music, art, and crafts. In connection with a second grade unit on bread, Tannenbaum and Stillman (pp. 316-7)¹⁸ illustrate how science becomes part of the children's experience:

Finding out why bread is wrapped.

Finding out why cake is kept in a glass case.

Finding out what yeast does to dough.

Finding out the effect of baking soda on dough.

Finding out about some of the machinery needed in baking.

Finding out some of the basic concepts involved in the relationships between time, temperature and baking.

MATERIALS ON MATHEMATICS AND PERSONALITY DEVELOPMENT

- Davis, Robert B., "Emotion and Thought," *Mathematics Teacher*, XLVIII (March 1955), 133-45.
- Dyer, Henry, Robert Kalin, and Frederic M. Lord, *Problems in Mathematical Education*. Princeton, N.J.: Educational Testing Service, 1956.
- Levy, Daniel, *Maternal Overprotection*. New York: Columbia University Press, 1943.
- Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, Inc., 1954, pp. 33-34, 60.
- Plank, Emma and Robert, "Emotional Components in Arithmetical Learning as Seen Through Autobiographies," *The Psychoanalytic Study of the Child*, Vol. IX, 1954, 274-93.
- Plank, Emma, "Observations on Attitudes of Young Children Toward Mathematics," *The Mathematics Teacher*, XLIII, No. 6 (1950), 252-63.

MATERIALS ON LEARNING MATHEMATICS

- Brownell, W. A., and Gordon Hendrickson, "How Children Learn Information, Concepts, and Generalizations," *Forty-ninth Yearbook*, National Society for the Study of Education, Part I, pp. 92-128.
- Fehr, Howard, "Theories of Learning Related to the Field of Mathematics," *Twenty-first Yearbook* (1953), National Council of Teachers of Mathematics, pp. 1-41.
- Hadamard, Jacques, *Psychology of Invention in the Mathematical Field*. Princeton, N.J.: Princeton University Press, 1949.
- MacLachy, Josephine, "Number Abilities of First Grade Children," *Childhood Education*, XI, No. 9 (May, 1935), 344-47.
- Morton, R. L., *Teaching Children Arithmetic*. New York: Silver Burdett Company, 1953, pp. 35-59.
- Spencer, Peter L., "Some Principles Underlying Mathematical Learning," *Building Mathematical Concepts in the Elementary School*. New York: Henry Holt and Company, Inc., 1952, pp. 26-56.
- Wertheimer, Max, *Productive Thinking*. New York: Harper & Brothers, 1945.

MATERIALS ON INSTRUCTIONAL PROBLEMS IN ARITHMETIC

Relationships

- Teaching Guide: Mathematics, K-9*. San Francisco Public Schools.
- Whitehead, *Introduction to Mathematics*.

Number system

- Brueckner, Leo, and Foster Grossnickle, *Making Arithmetic Meaningful*. Philadelphia: John C. Winston Company, 1953, Chap. 2.
- Dubisch, Roy, *The Nature of Numbers*. New York: Ronald Press Co., 1952.

6. Curriculum work in the preparation of materials.
7. Intervisitation by teachers.
8. Classroom experiment with help of curriculum consultants.

Many of the fears that teachers had about science have vanished with the growth of assistance for curriculum development in science.

BIBLIOGRAPHY

MATERIALS ON BUILDING A SCOPE FOR MATHEMATICS

- Arithmetic in Our Schools*. Newark, N.J.: Newark Board of Education, 1949.
- Clifford, W. K., *The Common Sense of the Exact Sciences*, Chap. I, "Number"; Chap. II, "Space"; Chap. III, "Quantity"; Chap. IV, "Position"; and Chap. V, "Motion." New York: Alfred A. Knopf, Inc., 1946.
- Dantzig, Tobias, *Number*. New York: Doubleday & Company, Inc., 1956.
- Hannon, Herbert, "A New Look at Content and Its Placement in Elementary Mathematics," *School Science and Mathematics*, LIX (November, 1959), 614-23.
- Plaget, Jean, *Child's Conception of Number*. London: George Routledge & Sons, Ltd., and Kegan Paul, Trench, Trubner & Co., Ltd., 1952.
- The Growth of Mathematical Ideas*. Washington, D.C.: National Council of Teachers of Mathematics, 24th Yearbook, 1959.
- The Teaching of Mathematics in Primary Schools*. London: George Bell & Sons, Ltd., 1956.
- Whitehead, A. N., *Introduction to Mathematics*. New York: Oxford University Press, 1948.

MATERIALS ON ESTABLISHING A SEQUENCE FOR MATHEMATICS

- Beberman, Max, *An Emerging Program of Secondary School Mathematics*. Cambridge, Mass.: Harvard University Press, 1958.
- Brownell, William A., "A Critique of the Committee of Seven's Investigations of the Grade Placement of Arithmetic Topics," *Elementary School Journal*, XXXVIII, No. 6 (March, 1938), 495-508.
- Frederic Burk Demonstration School Staff, San Francisco State College, *Progress Report of Plans Related to Arithmetic*, 1955.
- Stokes, C. Newton, *Teaching the Meanings of Arithmetic*. New York: Appleton-Century-Crofts, Inc., 1951.
- Teaching Guide: Mathematics, K-9*. San Francisco, Calif.: San Francisco Public Schools, Curriculum Bulletin 101, 1946.
- Washburne, Carleton, "The Grade Placement of Arithmetic Topics," A Committee of Seven Investigations, *Twenty-ninth Yearbook*, National Society for the Study of Education, pp. 641-70.

MATERIALS ON MATHEMATICS AND PERSONALITY DEVELOPMENT

- Davis, Robert B., "Emotion and Thought," *Mathematics Teacher*, XLVIII (March 1955), 133-45.
- Dyer, Henry, Robert Kalin, and Frederic M. Lord, *Problems in Mathematical Education*. Princeton, N.J.: Educational Testing Service, 1956.
- Levy, Daniel, *Maternal Overprotection*. New York: Columbia University Press, 1943.
- Pearson, Gerald, *Psychoanalysis and the Education of the Child*. New York: W. W. Norton & Company, Inc., 1954, pp. 33-34, 60.
- Plank, Emma and Robert, "Emotional Components in Arithmetical Learning as Seen Through Autobiographies," *The Psychoanalytic Study of the Child*, Vol. IX, 1954, 274-93.
- Plank, Emma, "Observations on Attitudes of Young Children Toward Mathematics," *The Mathematics Teacher*, XLIII, No. 6 (1950), 252-63.

MATERIALS ON LEARNING MATHEMATICS

- Brownell, W. A., and Gordon Hendrickson, "How Children Learn Information, Concepts, and Generalizations," *Forty-ninth Yearbook*, National Society for the Study of Education, Part 1, pp. 92-128.
- Fehr, Howard, "Theories of Learning Related to the Field of Mathematics," *Twenty-first Yearbook* (1953), National Council of Teachers of Mathematics, pp. 1-41.
- Hadamard, Jacques, *Psychology of Invention in the Mathematical Field*. Princeton, N.J.: Princeton University Press, 1949.
- MacLachy, Josephine, "Number Abilities of First Grade Children," *Childhood Education*, XI, No. 9 (May, 1935), 344-47.
- Morton, R. L., *Teaching Children Arithmetic*. New York: Silver Burdett Company, 1953, pp. 35-59.
- Spencer, Peter L., "Some Principles Underlying Mathematical Learning," *Building Mathematical Concepts in the Elementary School*. New York: Henry Holt and Company, Inc., 1952, pp. 26-56.
- Wertheimer, Max, *Productive Thinking*. New York: Harper & Brothers, 1945.

MATERIALS ON INSTRUCTIONAL PROBLEMS IN ARITHMETIC

Relationships

- Teaching Guide: Mathematics, K-9*. San Francisco Public Schools.
- Whitehead, *Introduction to Mathematics*.

Number system

- Brueckner, Leo, and Foster Grossnickle, *Making Arithmetic Meaningful*. Philadelphia: John C. Winston Company, 1953, Chap. 2.
- Dubisch, Roy, *The Nature of Numbers*. New York: Ronald Press Co., 1952.

- Spencer, P., and M. Brydegaard; *Building Mathematical Concepts*. . . .
 Ulmer, G., "Teaching Geometry for the Purpose of Developing Ability to do Logical Thinking," *Mathematics Teacher*, XXX (1937), 335-50.

Problem solving

- Henderson, Kenneth, and Robert Pingrey, "Problem Solving in Mathematics," *Learning of Mathematics, Its Theory and Practice*. National Council of Mathematics, Yearbook, 1953, Chap. 8.
 Johnson, Donald, "The Production Process: Complex Patterns and Problems," Chap. 8, *Psychology of Thought and Judgment*. New York: Harper & Bros., 1955.
 Wertheimer, *Productive Thinking*.

Integration with other subjects

- A Guide for Instruction in Arithmetic*, Grades 1-8. St. Paul, Minn.: State Department of Education, 1948.
A Guide for the Teaching of Arithmetic, Grades 1-6. Ventura, Calif.: Ventura County Board of Education, 1950.
Teaching concepts and generalizations related to space. Clifford, *The Common Sense of the Exact Sciences*, "Space," Chap. 2.

Measurement

- Spencer and Bryegaard, *Building Mathematical Concepts* . . . , Chap. 8, "Concepts Underlying Computational Procedures with Denominate Numbers."
 Whitehead, *Introduction to Mathematics*.

Algebra begins in elementary school

- Parsons, Cynthia, "Algebra in the Fourth Grade," *The Arithmetic Teacher*, VII, No. 2 (February, 1960), 77-79.
 Root, D. O., "Paving the Way for Algebra," *Journal of Education*, 124 (January 9, 1941).
 Sawyer, W. W., "Algebra in Grade Five," *The Arithmetic Teacher*, VII, No. 1 (January, 1960), 25-27.

MATERIALS ON MATHEMATICS IN THE SCHOOL DAY

- Teachers' Guide to Child Development*. Sacramento Calif.: California State Department of Education, Manual for Intermediate Grades.
 Whitehead, *Aims of Education*. New York: The Macmillan Company, 1929.

MATERIALS ON TEACHER COMPETENCE IN MATHEMATICS

- Dutton, Wilbur, "Attitudes of Prospective Teachers Toward Arithmetic," *Elementary School Journal*, LI, No. 1 (October, 1951), 84-90.

- Dyer, Kalin, and Lord, *Problems in Mathematical Education*. Princeton, New Jersey: Educational Testing Service, 1956.
- Lieber, Lillian, *Mits, Wits and Logic*. New York: W. W. Norton and Company, 1960.
- Newson, C. V., "Mathematical Background Needed by Teachers of Arithmetic," *The Teaching of Arithmetic*. Chicago: National Society for the Study of Education, 50th Yearbook, 1951, Part II, pp. 232-50.
- "Teacher Education," *Emerging Practices in Mathematics Education*. National Council of Teachers of Mathematics, 22nd Yearbook, pp. 171-268.

MATERIALS ON SCOPE AND SEQUENCE IN SCIENCE

- Blanc, Sam S., "Guideposts in Science Education," *The Science Teacher*, XXV, No. 2 (1958), 109-11.
- Blough, Glenn, et al., "Developing Science Programs in the Elementary School," *Rethinking Science Education*, National Society for the Study of Education, 46th Yearbook. Chicago: University of Chicago Press, 1960.
- Boyer, Donald A., "A Comparative Study of the Science Achievement of Pupils in Elementary Schools," *Science Education*, 39, No. 2 (1955), 3-12.
- Dunfee, Maxine, and Julian Greenlee, *Elementary School Science: Research Theory and Practice*, Chap. II. Washington, D.C.: National Education Association, Association for Supervision and Curriculum Development, 1957.
- Handbook for Elementary Science*. New York State Department of Education, 1959.
- Haupt, George W., "First Grade Concepts of the Moon," *Science Education*, XXXII (1948), 162-68.
- Hubler, Clark, *Working with Children in Science*. Boston: Houghton Mifflin Company, 1957.
- Navarra, John G., *The Development of Scientific Concepts in a Young Child*. New York: Columbia University, Teachers' College, Bureau of Publications, 1955.
- Oakes, Melvin E., *Children's Explanation of Natural Phenomena*. New York: Columbia University, Teachers' College, Bureau of Publications, 1947.
- Oxendine, Herbert G., "Grade Placement of the Physical Science Principle, 'Sound is Produced by Vibrating Material,'" *Science Education*, XLII, No. 4 (1958), 354-57.
- Read, John G., "Present Status and Problems of One Type of Grade-Placement Research," *Science Education*, XLII, No. 4 (1958), 349-53.

MATERIALS ON PERSONALITY FACTORS IN SCIENCE

- Brandwein, Paul F., et al., "Creativity and Personality in the Scientist," *Rethinking Science Education*. Chicago: National Society for the Study of Education, 59th Yearbook, 1960, pp. 63-81.

- Kubie, Lawrence S., "Some Unsolved Problems of the Scientific Career, Part I," *American Scientist*, XLI, No. 4 (1953), 596-613.
- , *op. cit.*, Part I, *ibid.*, XLII, No. 1 (1954), 104-12.
- Navarra, "Elementary Science as it Relates to the Developmental Problems of Children," *Science Education*, XXXVII, No. 4 (1953), 226-31.

MATERIALS ON TEACHER COMPETENCE IN SCIENCE

- Bocck, C. H., "Implications of Science Education Research on the Training of the Intermediate Grade Elementary School Teachers," *Science Education*, XLIV (February, 1960).
- Dunfee and Greenlee, *Elementary School Science . . .*, Chap. IV, Richardson, John S., *et. al.*, "The Professional Growth of the Science Teacher," Chap. XV, *Rethinking Science Education*, National Society for the Study of Education, 59th Yearbook, Part I, Chicago: University of Chicago Press, 1960.
- Todd, Vivian, "Women Teachers' Attitudes Toward Science in the Classroom," *Elementary School Journal*, LVIII, No. 8 (1958), 585-88.

FOOTNOTES

1. Russell, Bertrand, in *The Common Sense of the Exact Sciences* by William Clifford (New York: Alfred H. Knopf, Inc., 1946), p. viii.
2. Buswell, Guy T., William Brownell, and Irene Sauble, *Arithmetic We Need* (Boston: Ginn and Company, 1955).
3. Norton, Robert, Merle Gray, Elizabeth Springstun, and William Schaaf, *Making Sure of Arithmetic* (New York: Silver Burdett Company, 1955).
4. Breuckner, Leo J., and Foster E. Grossnickle, *Arithmetic We Use* (Philadelphia: John C. Winston Company, 1957).
5. Stokes, C. Newton, and Belle Adams, *Arithmetic in My World* (Boston: Allyn and Bacon, Inc., 1959).
6. Stokes, C. Newton, *Teaching the Meanings of Arithmetic* (New York: Appleton-Century-Crofts, Inc., 1951).
7. Whitehead, Alfred North, *Aims of Education* (New York: The Macmillan Company, 1929), p. 14.
8. National Society for Study of Education, *Science Education in American Schools*, forty-sixth Yearbook, Part I (Chicago: University of Chicago Press, 1947), pp. 75-76.
9. Zim, Herbert, "Where is the Science in Science Education?" *Science Teacher*, XXV, No. 1 (1958), 46-47.

10. Sawyer, Wallace M., "What About Science is Important to Teach?" *Science Teacher*, XXV, No. 8 (1958), 430-33.
11. *Elementary Science* (Palo Alto, Calif., Palo Alto Public School District, 1959), pp. iii-iv.
12. Leonelli, R. E., "Selection and Grade Placement of Physical Science Principles in the Elementary School Curriculum." (Doctoral Dissertation, Boston: Boston University, 1952.)
13. Boyer, Donald A., "A Comparative Study of the Science Achievement of Pupils in Elementary Schools," *Science Education*, XXXIX, No. 2 (1955), 3-12.
14. Erikson, Erik H., *Childhood and Society* (New York: W. W. Norton & Company, Inc., 1950), pp. 207-08.
15. Navarra, John G., "Elementary Science as It Relates to the Developmental Problems of Children," *Science Education*, XXXVII, No. 4 (1953), 226-31.
16. Kluckhohn, Clyde, *Mirror for Man* (New York: Fawcett Publications, Inc., 1959), p. 218.
17. Northrop, F.S.C., *Logic of the Sciences and Humanities* (New York: The Macmillan Company, 1947).
18. Tannenbaum, Harold E., and Nathan Stillman, *Science Education for Elementary School Teachers* (Boston: Allyn and Bacon, Inc., 1960), pp. 316-17.
19. Stollberg, Robert, Mary Durkin, and Gladys Zumwalt, *Elementary Science* (Martinez, California: Contra Costa County Schools, 1952).
20. Hadamard, Jacques, *Psychology of Invention in the Mathematical Field* (Princeton, N.J.: Princeton University Press, 1949).

9. FRONTIERS IN CURRICULUM MAKING: SOCIAL STUDIES AND LANGUAGE ARTS

IN THE FOLLOWING discussion of curriculum making in the social studies field, basic considerations that will enter into a creative effort to build a flexible and meaningful social studies scope and sequence are described. The social studies field is peculiarly in flux, and it is important that out of certain basic kinds of information each school system set itself the creative task of making an experimental social studies curriculum. In many ways the job is only beginning despite public urging in some quarters to return to almost exclusive emphasis on factual learning in the separate disciplines.

In the language arts field there are significant new frontiers in the application of linguistics to teaching English and foreign languages, in new ways of speeding reading through individualized teaching, and in new emphases in the spelling curriculum. Schools in different neighborhoods are developing language arts programs that meet the needs of children from their particular area. The creative process, suffering from new demands for memorization of facts, needs encouragement.

FRONTIERS IN SOCIAL STUDIES

The growing edge

The socialization process that takes place throughout the school day is particularly focused in the social studies. The social studies involve experiences with the problems of human relationships in the school and the larger community. They also include the human relationships of other cultures and of other times. Arising from these experiences and guiding these experiences are the *values* which become the "engines" for social relations of each individual.

The growing edge in the social studies curriculum area is its increasing concern with a deliberate process of socialization for democratic human relationships. Miel and Brogan¹ refer to this movement as the "next giant step in social education": "This step is the working out of a relationship between the two streams of development—the social studies stream and the character education stream." They see as possible guides to bringing these streams into relationship in the curriculum these five considerations:

1. The experiences in either stream which seem worth carrying on into the future.
2. The learnings provided for in either stream which should be retained but which can be provided for in other ways.
3. The unique features of children's learning when there has been a natural merging of the two streams.
4. Gaps and overemphases that have been apparent in the past.
5. Development of creative ways for comprehensive program planning which utilizes all of the foregoing considerations.

This concern for merging and culling is dictated by the growing need for the school to play its role in the teaching of values and human relations and also by the necessity for simplifying the school day, which continually shows signs of fractionating as new pressures and new subject areas are brought to the attention of the schools. To this merging of different movements in curriculum was added during the past two decades the stress on social skills, individual human relations, and group relations, which had been the subject of study by Lewin, Moreno, Bullis, Taha, and many others. The teaching of human relations understandings in connection with a social studies area, "People in America," is well illustrated by Taba and Elkins.²

To these influences on the social studies, the increasing emphasis on concept development has been added as one of the most important outcomes of social studies instruction. The lengthy study by the State of California of the social studies program³ included the preparation by social scientists in the different disciplines of lists of concepts and generalizations they felt important to the understanding of their areas. These concepts and generalizations were drawn from the fields of geography, history, social psychology, philosophy, economics, political science, anthropology, and sociology. The committee says that "the total list of concepts provides one basic coordinate from which the appropriateness of learning experiences, materials and content proposed for a social studies program can be checked." The extent of this effort can be partly judged by the classification of concepts listed below.

The price system	Diversity of human societies
The productive service market	Biological characteristics of man
Government regulation of business	Culture and society
Monetary and fiscal policy	Social processes
Private finance	Demography and human ecology
International economic relations	Groups, society, and communication
Government	Personality and the socialization process
Democracy	Social control
Citizenship	

The committee in its report expressed the need for additional concepts from such areas as science, conservation, safety, health, religion, art, music, education, and folklore. This emphasized the comprehensiveness of the social studies, that they embrace more than the social science disciplines and that their broad purposes include both the knowledge and personal competence that make the individual the master of his experience.

The role of personality growth theory in thinking about social studies curriculum is that of achieving a focus for the impact that social forces have on the growth and conduct of children. Although the social forces permeate all school experience, the social studies provide the greatest opportunity for helping children find themselves in relation to the realities of their culture.

One's sense of identity depends upon working out an understanding of one's relations with people and the institutions or agreements they set up. This sense of self depends upon knowing "how things work" in the

culture well enough so that there seems to be a place, an area of control, peculiarly one's own. The sense of self also depends upon seeing oneself in a stream of logically related events, the history of oneself, the history of one's culture, and perhaps the history of mankind. No one is at home with history until he feels himself as an element, caused and causing, in its stream. The events in other cultures add to the individual's understanding. The problems are similar, the solutions vary; entering another culture through the door of the common problem allows the individual to find himself and feel himself in relation to men everywhere.

It is also the role of personality growth theory to help provide a basis for judging when the institutions or agreements made among people in a society are no longer useful or even when they are harmful.

This is the growing edge in the social studies. It includes the introduction of character education and human relations in a social studies program guided by concepts necessary to thinking in the present complicated field of social relationships and institutions. It calls for deliberate attention to the processes of socialization by which children's values are acquired and modified. The focus for these streams is the total personality growth of the child. The problem of what should make up the scope of elementary school social studies hence becomes a more difficult one than formerly.

Changes in scope of social studies

Despite rather intensive efforts by educators, actual practice in social studies instruction has not changed significantly in many school districts. The pattern of scope and sequence has remained almost the same for half a century, except in some experimental schools and smaller private schools. Within this pattern some changes have occurred in the organization of units of work, the teaching of group work skills and understanding, and the wider use of audio-visual aids. The problem has been a difficult one for several reasons, but certainly one of the important reasons is the difficulty of bringing into focus in experiences the numerous and varied goals suggested.

One of the approaches to *scope* has been through an analysis of the functions carried on by different societies. As a procedure this is "outside" the child; this is the reality of institutions or agreements in which the child learns as he grows up to participate. For example:

THE BASIC FUNCTIONS OF SOCIAL LIVING

Our society—

1. Conserves natural resources.

This involves such generalizations as:

- a. Natural resources are destructible and exhaustible.
- b. The preservation of a society depends on conservation of resources.
- c. All people are concerned with conservation of the world's resources and must have a voice in their control.
- d. The biological community is interdependent; the preservation of the balance of nature is essential to conservation of renewable resources.
- e. The conservation of living things and of articles of use is a contribution to the general welfare through saving natural resources.

2. Conserves human resources.

This involves such generalizations as:

- a. Society perpetuates and improves its culture through education.
- b. Obtaining an education is a privilege and a responsibility of every person.
- c. Education in our society is directed toward the maintenance and extension of democratic ideals.
- d. Each individual has the right to services necessary to maintain optimum health.
- e. Proper health habits are of vital importance to physical and mental well-being.
- f. The health of an individual is conditioned by his environment.
- g. Community health requires social action.
- h. The opportunity to play is the right of every individual as is the opportunity to work.

3. Produces, distributes, and consumes goods and services.

This involves such generalizations as:

- a. Man is dependent upon the earth to produce materials to maintain life.
- b. The need for covering great distances and moving objects from one place to another has led to the development of extensive and varied means of transportation.
- c. Discovery and invention furnish a greater quantity, variety, and desire for goods.
- d. The use of more technological equipment to produce and

distribute goods has increased the dependence of groups on each other.

- c. Planning is necessary to insure a balance between production and consumption for the general good.

4. Develops understandings for world cooperation.

This involves such generalizations as:

- a. All the people of the world are much more alike than they are different.
- b. People's rights to be different must be protected.
- c. All the people of the world have similar basic needs.
- d. The differences between groups in various parts of the world are brought about by processes of socialization, not heredity.
- e. All the people of the world are members of one human race.
- f. The segregation of people on the basis of race, creed, religion, or nationality is undemocratic.
- g. World cooperation is essential to democratic world peace.
- h. All world cultures contain valuable contributions, the worth of a culture being measured by its total effect in providing healthy human relationships.

5. Communicates ideas.

This involves such generalizations as:

- a. The need to communicate is a powerful force in all countries.
- b. Communication has been facilitated by technological development.
- c. Social experiences are recorded.
- d. The arts of communication include printing, architecture, drama, the dance, sculpture, and music.
- e. Education is dependent upon communication of ideas.

6. Develops spiritual and aesthetic appreciations.

This involves such generalizations as:

- a. Spiritual and aesthetic feelings are significant forces in all cultures.
- b. In a democratic society the individual is guaranteed the right and opportunity to express and satisfy spiritual and aesthetic feelings.

7. Develops understandings and convictions regarding democratic processes in government and other human relationships.

This involves such generalizations as:

- a. All cultures have had some form of government.

- b. The fundamental principle of democracy is a basic equality of all people.
- c. In a democracy the development of the individual and the improvement of the society are interrelated.
- d. A democracy guarantees individual freedoms of religion, speech, press, and assemblage.
- e. A democracy employs the scientific methods to solve its problems.

However useful this might be as an analysis of the functions societies need to carry on in order to survive as societies, the approach is still too remote from the child's concern to be effective as a guide to his social studies experiences. Several school districts and states have developed comparable descriptions of social functions.

The social studies curriculum of Battle Creek, Michigan lists these functions:

1. Health and safety of group and individual.
2. Producing and consuming goods and services.
3. Understanding and improving social organizations.
4. Communicating ideas.
5. Participating in home and family living.

The San Francisco approach separates social *functions* and social *processes*. The social functions felt important are:

1. Protect life and health.
2. Conserve and utilize physical environment.
3. Understand relationship between individual and government.
4. Understand role of education.
5. Provide for aesthetic expression.
6. Provide for religious expression.

The social processes listed as things that individuals and groups find it necessary to do are:

- | | |
|------------------|-----------------------------|
| 1. Think. | 4. Work with others. |
| 2. Make choices. | 5. Plan. |
| 3. Figure. | 6. Communicate with others. |

Such schemes, though an improvement over the definitions of scope that preceded, may result in an exclusively subject-matter approach, the old wine being poured into the new bottles with the attractive new labels.

In an attempt to get closer to the concerns that motivate children's learning, Stratemeyer, Forkner, and McKim have devised the term *life*

situation, the vital learning experiences found in persistent life situations encountered by children in the home, community, work activities, leisure, civic, and spiritual activities. The values inherent in such an approach are apparent. In the persistent life situation met by the child the whole flavor of experience is there; its emotional and cognitive aspects are a part of a natural situation with its own logic. Although the "persistent life situation" approach does not provide a pattern of scope in the way those mentioned above do, a flexible pattern develops out of the recurrence of life situations appropriate to children of various levels of development.

The developmental tasks developed by Caroline Tryon⁴ out of the original psychoanalytic stages, and further worked out by Havighurst,⁵ also give some guidance to possible scope of the social studies, particularly with reference to the developmental problems of the individual. They also furnish some clues to possible sequence of experience in the social studies as well as in other subject areas. Below in the left-hand column the ten tasks all human beings have to perform in the process of growing up are listed. In the right-hand column are listed the tasks that children in late childhood—seven to eleven—have to undertake in the process of their development.

GENERAL TASKS OF ALL HUMAN BEINGS IN OUR SOCIETY	SPECIFIC TASKS OF LATE CHILDHOOD
I. Achieving an appropriate dependence-independence pattern.	1. Freeing oneself from primary identification with adults.
II. Achieving an appropriate receiving pattern of affection.	1. Learning to give as much love as one receives; forming friendships with peers.
III. Relating to changing social groups.	1. Clarifying the adult world in contrast to the child's world. 2. Establishing peer groupness and learning to belong.
IV. Developing a conscience.	1. Learning more rules and developing true morality.
V. Learning one's psychosocio-biological sex role.	1. Beginning to identify with one's social contemporaries of the same sex.

- | | |
|---|---|
| VI. Accepting and adjusting to a changing body. | |
| VII. Managing a changing body and learning new motor patterns. | 1. Refining and elaborating skill in the use of small muscles. |
| VIII. Learning to understand and control the physical world. | 1. Learning more realistic ways of studying and controlling the physical world. |
| IX. Developing an appropriate symbol system and conceptual abilities. | 1. Learning to use language actually to exchange ideas or to influence one's hearers. |
| | 2. Beginning understanding of real causal relations. |
| | 3. Making finer conceptual distinction and thinking reflectively. |
| X. Relating oneself to the cosmos. | 1. Developing a scientific approach. |

In developmental tasks such as those above, the curriculum maker has a broad indication of what concerns children and particularly the concerns that arise from the impact of society's demands and expectations.

In Chapter 2 the stages of personality development were fully discussed. These also form a guide to the building of experiences for children, experiences that will allow children a chance to resolve the nuclear conflicts typical of their ages and to reinforce the solutions now tentatively secured. These guides apply to the opportunities to use them.

The curriculum maker asks himself these questions about the stages of development:

1. Do the methods of socialization used in school give the child confidence that he can achieve a measure of competence?
2. Is the affective tone of the classroom and the school such that children can try, and fail, and try and succeed?
3. Does the content as well as the method used in the social studies reassure the child as to the reasonableness and order of things?
4. Does the child learn to trust that his knowledge of how things are

done, how goods are produced, how decisions get made, for example, is adequate to permit him to take part in the life around him?

5. Does the child understand himself?

These are only a few of the questions, some more relative to the social studies area than others, that the curriculum maker asks as he thinks about experiences to provide as part of the social studies curriculum.

Michaelis' analysis⁶ of forty-four courses of study indicates general agreement that the purposes of the social studies are to help each child to:

1. Become a democratic person whose behavior is guided by democratic values, who is loyal to the American way of life, and who appreciates the sacrifices and contributions made to promote democratic living here and throughout the world.

2. Develop modes of behavior consistent with democratic values, such as responsibility, concern for others, open-mindedness, creativeness, and cooperation, and to use them in relationships with others.

3. Develop group-action skills and social competency in intergroup relations, recognizing the value of group decision making; showing respect for differences of opinion, and exhibiting high regard for rights of minorities yet abiding by majority decisions.

4. Develop the ability to think critically and creatively and use problem-solving skills in situations involving human relationships; use dependable sources of information; locate, evaluate, select, organize, and present information effectively; and base action on sound conclusions.

5. Appreciate and respect other persons, cultural similarities and differences among peoples, and the contributions of others to our ways of living, realizing that human dignity and personality are of first importance in human relationships regardless of race, color, or class.

6. Acquire and use functional information concepts, and understanding of: basic social functions of human living such as production of goods and services, transportation and communication, conservation of resources, esthetic and religious expression, education, recreation, and government; the impact of scientific advance and education upon ways of living; the effect of moral and spiritual values upon human behavior; ways to improve family life, community living, and national and international welfare; and the increasing interdependence characteristic of modern living.

7. Become responsive to needs and problems of others and act courageously and with integrity to bring about changes consistent with democratic ideals and processes.

These are the various streams that make up the complex scope of the social studies curriculum. Other areas of the curriculum also utilize ex-

periences from these streams, of course. The social studies curriculum is peculiarly the focus, however. Broadly the purpose of the social studies is that of socialization of children so they can live in and shape a society of free men. From human relations, character education, developmental stages, and tasks, and from the various fields that include the study of the relationships and agreements of men in a society, the social studies scope is derived.

The creative job of the curriculum maker is the building and finding of experiences appropriate to children which will allow for growth in the children's ability to cope with the social situations in which they live.

Changes in social studies experiences

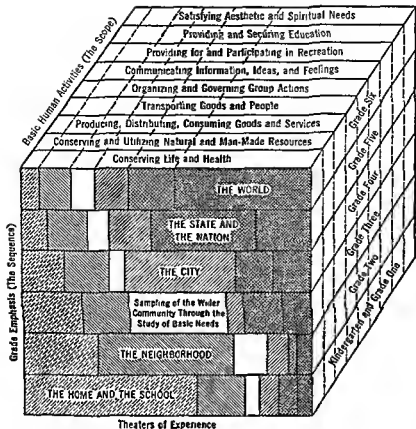
The problem of building a sequence for the social studies is simpler if learning certain subject matter is the only objective. Criteria of simplicity, immediacy, nearness, logical relations within content, and chronology, have been applied when subject matter acquisition is the goal. The sequence of the social studies program for Philadelphia illustrates the application of some of these principles.

- Grade 1 Living at home and in school
- Grade 2 Living in the neighborhood
- Grade 3 Using the wider community to meet our basic needs
- Grade 4 Living in our city and state
- Grade 5 Living in our nation
- Grade 6 Living in the world

The chart illustrates how the scope and sequence are related schematically in the Philadelphia plan.*

In most modern social studies programs, however, the approach to sequence is reversed. The child's stage of development, and the basic problems involved in it, is the beginning point. The continuity which curriculum makers sought to secure through subject matter organization is now seen as depending on a succession of resolutions by the child of the problems he has, one of which is certainly learning the facts of organized community life. Because the child takes in the things that have a personal relationship to himself, the sequence of social studies experiences is to some degree indicated by the child's ability to take in new things because they have

* From *Toward Social Competence* (Philadelphia Public Schools, 1950).



elements of the old. "The school must offer children help in their job of continuous orientation, help of a quality that will step up the learning process and make children's use of time for this purpose more efficient than it would be if they were left to explore their environment with only the help of home and other community institutions and contacts. The school can facilitate the process of orientation by helping children with ways of investigating a community—observing people and social processes, talking with people, seeing relationships among things observed, interpreting observations in terms of value in operation and their own values, and organizing information acquired." Miel and Brogan illustrate how the curriculum sequence grows out of the "extension of life-space" as the child matures.

The same problem is to a degree met by Stratemeyer, Forkner, and Sweet when they attempt to isolate "persistent life situations." Here the

assumption is that children in growing up with others, with parents and siblings, and in communities, and in regard to their own problems of development will meet the same problems during the different levels of maturity through which they grow. Some of the persistent life situations mentioned by them include:

- Managing money
- Being accepted in a group
- Measuring
- Using common tools correctly
- Establishing effective working relations with others
- Working with different racial and religious groups
- Using safety measures

For them, "The sequence of the curriculum is determined by the changing aspects of persistent life situations as the learner moves from childhood into the full responsibilities of adulthood."⁸

In their attempt to merge the character education and the social studies streams, Miel and Brogan⁹ suggest the use of a series of experiences, such as these illustrative ones.

- Learning about work (kdgn)
- Learning about distant places (kdgn)
- Preparing to understand newcomers (1st grade)
- Studying ways of getting to a metropolis (2nd grade)
- Learning from a foreign visitor (2nd grade)
- Learning about our national anthem (2nd grade)
- Learning about fairs (3rd grade)
- Studying how people help a city to grow (4th grade)
- Discovering the Navajos as people (4th grade)
- Investigating countries of ancestors (4th grade)
- Approaching orientation systematically (4th grade)
- Building respect for foreign backgrounds (6th grade)
- Gathering information for a school newspaper (6th grade)
- Learning from a resource person (6th grade)
- Learning about the iron curtain (6th grade)
- Visiting an ocean liner (upper grades)

In this approach to sequence, the curriculum worker has in mind the developmental problems of children and the broad content goals of the social studies. With the children, he builds experiences that arise from the interests of children and which utilize a wide range of aids to learning—books, television, field trips, resource people, for example. This approach to sequence requires that the staff plan together frequently and that evaluation

of children's learning be closely tied in with curriculum experiences. It also requires a thorough cumulative record system that reflects progress in a wide range of goals.

The creative task ahead

The task of developing a flexible pattern for the social studies usable in public schools requires the highest kind of creative effort. The "system-makers'" inflexible schemes have sold the teachers short as professional workers. The range of things to be considered in working on this problem has been widened. The knowledge of why children learn and don't learn has greatly increased. There are three broad kinds of considerations that make up the background of the teacher's choice of experiences and his organization of those experiences. They are indicated in the chart below.

I	II	III
Nuclear problems and developmental tasks.	Values and human relations in a free society.	Concepts and generalizations needed for growth and understanding, and command over the tools and information needed to live in our society.

So it becomes the task of school staffs everywhere to build *with* children in their schools a series of experiences which are growth-inducing. Records of these curriculum efforts should be kept so that as these documents from direct experience with children accumulate we will have made a first step in building a social studies curriculum with children and with constant reference to the concepts needed by children to live in their social world. In time these experiences may tend to be similar. Accompanying such a program of deliberate trial a broad evaluation program is essential. A sharply diagnostic evaluation program is now particularly essential because children no longer are as dependent on the school for learning. Television, travel, family discussion, books, motion pictures, and radio all bring to children large amounts of information and attitudes that need to be evaluated if the school is to be an efficient institution.

The unit approach to the organization of experiences for children has much to offer. It allows for a more holistic development of experience, provides better for multiple learnings, and prevents the fractionating of the

school day. It also allows for better handling of individual differences and interests. In itself it is not a solution to the creative problem posed above. But in the collection of materials for units of work teachers throughout the country have produced a wealth of descriptions of experiences which can be examined and reworked to serve the modern task of a flexible social studies program.

Individual growth and social studies

A child's interests are a clue to his underlying emotional problems—normal and pathological. The child's "... capacity to pursue his apparent interests in a sustained way spontaneously and without external pressure is a quantitative measure of the relative roles of conscious and unconscious forces in the organization of his personality and his activities. With this in mind, the curriculum becomes a kind of divining rod, a diagnostic test instrument to tell us something about the child. This may be more important than its pedagogical value in formal education."¹⁰ Whether we want to accept Kubie's assertion completely or not, the important consideration from it is that content always has a special meaning if it is learned. The child learns it because, symbolically, it has relevance to his unconscious functioning, his fantasies, his normal problems, his developmental tasks, his current work project.

Kubie tells of a youngster who went through a long series of special interests—American Indians, Vikings, writing, painting, the modern dance, piano, economics, and others. "This had begun with Indians and Vikings. She wrote stories about Indian and Viking boys. She painted their pictures. She dressed up to look like them. She acted their roles in the little plays which she wrote. Later she danced them. It turned out that in all these 'interests' she was acting out in varied forms her fantasies of being made over in her older brother's image. In the end, however, since every activity left her unaltered, and since everything that she attempted failed to work the magical change which she was seeking, she ran through such a long series of inconstant interests and, in spite of exceptional endowment, ended up stalled and inert and indifferent."¹¹

A child's interest in geography, for example, has behind it a kind of vicarious "going away," separating from parents in a way that is still safe but offers emotional satisfactions at the age when he wants to separate himself to a degree from his family. He has lost the battle of the family triangle; the wide world is his—in geography—to find a place for himself.

Key instructional problems in social studies

There are at least eight instructional problems to which the curriculum worker gives his attention. The first two of these, the *choice of experiences* and the *organization of these experiences*, have been touched on above. The organization of social studies experiences is usually the problem with which teachers are initially most concerned. The organization of experiences into units is probably the most useful procedure, if certain precautions can be followed: (1) not all social studies experiences should be organized as "units," to do so would rule out the opportunities for learning that rise quickly and spontaneously from the living situation in the classroom; (2) not all units should be long, some may well last a single day only; (3) a unit that has been taught once should be regarded only as a possibly valuable collection of resource material when the same general problem is again pursued, and not as a blueprint; (4) the experiences that comprise a unit of work should be examined with great care to provide for the normal problems of the particular group of children involved.

With these kinds of precautions the unit method has value as a way of organizing the social studies experiences. With greater experience the teacher will be able to move more smoothly in and out of the phases of work with a particular group. The children will not have the sense of discontinuity that the beginning teacher using the unit of study method often conveys. Nor will we find such anomalies as moving the San Diego harbor unit to some inland city to which a teacher may have transferred. The principal danger of the unit approach in the social studies is the creation of a new kind of rigidity wrapped up in the formal "unit." Even so, if one must choose between rigidities, the unit kind, if it does become formalized, is probably the better.

The third instructional problem area is one with many facets. It is the problem of making the experiences in the social studies truly socializing. This is a complex of problems including: (1) using these experiences to increase the child's self-knowledge; (2) using these experiences to teach human relationships; (3) imparting values and bases of values to children through their classroom experience; (4) working with other people in groups, in pairs, in division of labor arrangements, as leaders, as holders of minority opinions, as initiators, and so forth. All of these are related and overlapping. They all have to do with the use of the living situation in the school to build in day by day the values and abilities necessary to

successful participation in a healthy society of free men. The instructional problems surrounding them are difficult. The readings suggested are not adequate to the task. The creative task remains to be done by the curriculum workers in each school system. It should be recognized that adding more content does not deepen the curriculum but that more emotional understanding does.

Teaching problem solving or critical thinking requires direct experience as well as vicarious experience. Following on direct experience, content is used in great quantities by the child to help extend beyond his immediate experience the application of social insight to life situations far removed geographically and chronologically.

Social studies in the school day

There are, of course, many different possibilities for including the social studies in the day's program. Each school should be enabled to make adaptations appropriate to the particular group of children and the community. Generally there are two principles to be followed: (1) The block of time allowed for social studies should be long and permit a maximum of flexibility in planning and experiencing, because it takes time to provide for a living situation and more time to allow for the discussion of the daily problems in human relationships that make up an important part of the curriculum. (2) The placement of the social studies in the day should allow for combination with other subjects such as the language arts or science when the activities being engaged in can profitably be extended.

Evaluating in the social studies

In the social studies the evaluation program has been generally inadequate as measured against the complex goals that teachers are asked to use to guide their work. This has in turn operated to discourage a broad social education approach to the social studies. Over the long term teachers tend to teach what is evaluated, to give emphasis to those things that are most consistently measured by the testing and evaluation program. Many of the objectives involved in human relations, democratic behavior and attitudes, understanding of concepts and generalizations, can best be evaluated by the more informal techniques of sociometric tests, observation, checklists, and so forth. These are adequate to the purpose but the teacher's time and preoccupation with the instructional process makes it difficult to use such

means. If such means are to be used class size will need to be reduced and a part of the energy of the central testing office will need to be devoted to helping teachers make such evaluations, a thought that may not arouse enthusiasm in some statistically oriented test offices.

The techniques of evaluation listed below are some of those particularly useful in the social studies. The references will help the student to pursue these in adequate depth to permit their utilization.

METHODS OF EVALUATION

1. Direct observation, combined with anecdotal records.
2. Group discussion: taping a group discussion enables the teacher to analyze later for attitudes, expression, inadequate concepts.
3. Charts for self-evaluation and group evaluation; pupils can check progress toward goals they have laid out.
4. Checklists provide the teacher with a rapid method of recording children's behavior in a classroom; combined with a time cross-check the checklist can give a basis of comparison with others and with the pupils' behavior on previous occasions.
5. Interviews: the talk between the teacher and the child tends to be neglected in areas where large classes and a high rate of mobility exist; yet it is one of the best methods of evaluating what children feel and know.
6. Logs and diaries kept by the pupils help the teacher get an insight into how pupils work and what their feelings are.
7. Questionnaires and inventories getting at special interest, hobbies, after-school activities, home resources for learning are all valuable when time permits their use.
8. The individual case conference in which the knowledge of everyone who has contact with the child is shared is a valuable method of getting at the dynamics of his behavior.
9. Sociometric tests help to get an understanding of children's progress in learning how to work and live with other children.
10. The parent-teacher conference should be partly structured to allow the teacher to get information about the child to supplement his behavior at school; questions about typical behavior, reading habits, feeling about school should be asked of most parents.
11. Papers the pupil writes for class should be kept in the cumulative folder as a basis for judgment of progress.
12. Normative tests can provide an evaluation of a narrow band of objectives.

13. The sociodrama is a means of finding out attitudes and values of the pupils.
14. Some of the informal tests, like the Guess Who and the Three Wishes also give the teacher insight into values and problems of children; they may help discover problems that keep children from learning.

The evaluation means should be paired with the objectives accepted as important in the school district. The materials in the bibliography will help the student select and use several means of evaluation.

Teacher competence in social studies

It is plain, of course, that the elementary social studies teacher can not be thought of as a purveyor of bits of content over which he has managed to exercise some command. How to prepare teachers for this broader role is both a pre-service and an in-service problem. It is going to take time for teachers to acquire the professional sophistication needed to work with children in the ways suggested above. Certainly their knowledge of dynamic psychology needs to be increased as does their command of such anthropological conceptualizations as *socialization*. The use of good consultants who can work closely with teachers as they work with children is an important step in improving teacher competence. For this job a curriculum worker cannot be satisfied with the work a teacher may do on a curriculum committee. The relationships that are to be promoted in the classroom demand sensitive, cooperative work on the part of teacher and curriculum worker with many opportunities for discussing, questioning, revising, and experimenting.

In the subject matter area the problem is less difficult but by no means ready of solution. Particularly in the social studies it becomes apparent that the modern teacher is going to be a highly professional teacher whose job is seen as more complex than that of the doctor, the lawyer, the psychiatrist, or the instructor in a single discipline such as history or biology, for example.

FRONTIERS IN THE LANGUAGE ARTS OR COMMUNICATION

Broadly, the language arts include listening, speaking, reading, and writing. These are the ways in which we all communicate to others our thinking

proposals continue to be made in large numbers. Some of these pressures are the results of individual parents' anxieties over their own ease of reading disability; some are unwise pressures from people in other fields who have not bothered to study the available research on reading instruction.

There are at least eight frontier questions and programs in the reading field. These are described below and references for further study are included at the end of the discussion.

The first "edge," although by no means completely new to a good teacher of reading, is the re-emphasis on motivation for reading. This search for the origin of the "engine" that makes the individual go, reading shares with the entire curriculum. It is becoming increasingly evident that if we can get the active improvement of the individual he will learn to read with a minimum of help. If the personality growth of the individual is interfered with by factors that prevent a resolution of normal problems he may find it very difficult to learn to read.

The second "edge" to be noted is that readiness is by no means a mechanical condition made up of left-to-right eye movements, eye focus, eye movement and vocabulary development. Readiness to read also represents an emotional readiness. This readiness may consist of willingness to grow up, to grow out of the five-year-old stage and into latency, and in another sense, to give up the oedipal conflict. Children who read phenomenally early may reflect, however, not exceptional intelligence, though this may be present, but a deprivation of contact with the real, the mother, for example. Reading here becomes a substitute for felt love. Extremely early reading should be studied closely for the possibility of pathology that may cause difficulty in other areas of the child's life.

Clinicians have noted that children who have "pleasure-ridden" personalities may not learn to read; readiness in this instance means reworking the experience of the child so that he can give up some of his narcissism. Reading inhibitions may arise from specific fantasies, and some phobic children may approach reading with so much anxiety that they cannot attend to it. As noted in Chapter 3, learning may get involved in the oral problems of the child and he may not be able to learn to read until there is some resolution of them. In pathological cases the inability to read may also represent the defensive struggle against scopophilia.

This edge, the broadening interpretation of readiness, needs much more research into its essentially dynamic origins.

The third concern is with the family. The involvement of the family with the readiness problems and reading disabilities of children is not new to any teacher, but it requires a systematic look still lacking. In families that value reading, provide much reading material, and read aloud to children, children generally have greater interest and achievement in reading. In families that have little interest in reading, few books and magazines, and a disorganized family life, we often find children who learn to read with more difficulty. These are the more "normal" differences between families which we have learned to adapt for by means of junior primaries, more first-hand experience, delayed introduction to reading, grouping, and staggered sessions.

In cases of serious disability the family is more deeply involved. There is frequently some pathology in the relations of adults and children when there is a very serious learning disability. This is often unrecognized by the family until the child enters school. Here the effect of the family pathology makes itself felt. The family that sends its children to school emotionally unprepared to learn often does not recognize this fact and tends to blame the school. The school has broadened its scope to try to compensate for this, but ordinarily this is an impossible task without outside aid. The family and the community must enter the picture again and provide two things: (1) parent education that will prevent emotional disability, and (2) opportunity for family therapy that can remove emotional disabilities in learning.

A fourth new practice is that of individualized reading. Reading with the entire class and reading in groups is generally wasteful, uninteresting, and retarding of the learning process. There are a number of conditions which have to surround an individualized reading program, however; it is part of the curriculum worker's job to secure these conditions. The first of these is a superior elementary school library. The second is wide teacher familiarity with children's literature and other reading materials. A third is class size that is manageable for all purposes. Veatch¹² compares the two methods, individualized reading and ability-grouped reading, in the materials below.

INDIVIDUALIZED READING

ABILITY-GROUPED READING

1. READING MATERIAL

A. Large number and variety of trade and textbooks used in instruction

A. Single basic or supplemental readers used in instruction

II CLASSROOM ORGANIZATION AND PROCEDURE

- | | |
|---|---|
| A. Children choose what they read | A. Teacher chooses what children read |
| B. Motivation arises from child's interests | B. Motivation comes from teacher using the manual |
| C. Instruction on individual one-to-one basis | C. Instruction on group basis |
| D. Grouping is short term and for specific, immediate purpose | D. Grouping is semipermanent and for indeterminate purpose |
| E. Reading lesson prepared independently and seatwork has element of self-determination | E. Reading lesson is prepared in a group and seatwork determined by teacher |
| F. Remedial work integrated with other activities | F. Remedial work entails separate operation |
| G. Planned sharing period | G. No special sharing period |
| H. Individual peak reading level checked and evaluated | H. Various and indeterminate reading levels checked and evaluated |

III EFFECT ON THE CHILD AND ON HIS READING

- | | |
|---|---|
| A. Gifted child progresses at his own pace | A. Gifted child must gear progress to group's |
| B. Slow reader not publicly stigmatized | B. Slow reader publicly stigmatized |
| C. Close personal interaction with teacher serves child's psychological needs | C. Child loses advantage of close personal interaction with teacher |
| D. Reading at own interest and ability level fosters development of skill | D. Working at group interest and ability level may hinder development of skills |
| E. Acquiring skills only as needed assures their normal development | E. Acquiring skills when not needed may hinder reading competence |
| F. Oral reading promoted by genuine audience situation | F. Oral reading suffers through absence of genuine audience situation |
| G. Reading becomes its own reward | G. Extrinsic rewards may debase intrinsic value of reading |

A fifth practice is neither new or old. It is one of those things that some teachers have done since books were printed and that others have

not tried. This includes the extensive use of the reading materials furnished in texts to teach the drawing of inferences, getting the main idea, following directions, criticizing illogical statements, scanning to find general purpose of the material, and many others. Instead of elaborately preparing extra material for teaching such skills the teacher can save time and do a better job of teaching reading if he will use the printed texts. This kind of intensive farming of the most available material is often recommended in teachers' manuals accompanying texts but ignored in practice.

A sixth "edge" is the problem of altering the language arts program according to the district the school serves. This was suggested in Chapter 4. Generally this means parent education as to the factors important in learning, more speech development work in some schools than in others, more intense use of the elementary school library, more reliance on descriptive grammar than on rigid "right-and-wrong" conceptions of pronunciation and grammar, delay in beginning reading for some children, smaller classes, special help for those in difficulty, and a teacher relationship that to some degree provides the support not available at home. One of the emphases coming from the study of linguistics^{12a, 12b} is that the normal speech of children should be respected. It is more important that they speak than that they speak correctly. It is more important that they write than that they write correctly, as defined by convention. The spoken language in particular is to be regarded as a changing and expressive medium for communication.

A seventh "edge" is that of extensive reading, really a part of the individualized approach in that extensive reading occurs with this approach to reading instruction. The resources are now available for extensive reading by children in virtually every field into which their interests may direct them. Extensive reading involves all the subject fields.

An eighth frontier practice includes new rapid methods of teaching beginning reading. How promising these methods may be with English remains to be seen. The work of Caleb Gattegno¹³ and others in Ethiopia and India in teaching illiterates to read in three weeks in contrast to the usual two years suggests that in beginning reading also we should be trying some radical departures from the present systems. Gattegno's experiment with five-year-olds in Dallas, Texas, indicates further need for experimenting with new methods. The system involves the use of colors as additional aids to sound identification and word identification. The method has been particularly successful with languages that are strictly phonetic, such as

Spanish, Amharic, and others. In the Dallas trial, five-year-olds spent a half hour each day using Gattegno's color and sound method. At the end of two weeks they could read a sentence of fifteen words, picking them out from other words that had not been taught. The method stresses the autonomy of the learner in this process in that as he learns he applies and reapplies them himself.

Written language skills

Virtually all the language skills for writing should be taught in connection with two kinds of composition—descriptive or expository type writing and creative writing. The writing should come out of the experiences children have in school, at home, on trips, and vicariously in various ways. Initially, the emphasis is on expressing what the child wants to tell. Suggestions for improvement come gradually as the child can use them and learn them. No corrections are made on creative work. The child will transfer what he learns in the less involved situation of descriptive or expository writing to his creative writing as he feels he needs to. The curriculum job in this connection is to suggest resources in experience from which writing can arise naturally. It also includes a broad description of the kinds of language arts skills for which the elementary school will teach.

The creative writing of children is stimulated by hearing many things read to them. Hearing much poetry and fiction and well-written narration of various kinds prepares the child through hearing the patterns of expression. Creative writing is also stimulated by direct experience, although the teacher should not try to elicit creative expression immediately after experience. Children who have had an intense experience may not want to express themselves about it right then. The creative process often requires delay, absorption, and gestation. The kind of school described in the chapter on school buildings will provide the physical setting for creative processes, particularly for some children. Each classroom may want a creative center, if cubicles are not available, where children can be quiet and reflective.

Writing at some levels of creative effort at least is genuinely a labor of love. It is basically the desire to give, in a broad sense, to someone else one's thoughts and ideas. The basic climate for writing is therefore warm and accepting. If preconscious processes are to be made accessible to the individual, he must be free of a sense of possible irrelevant criticism from others; he must also be relatively free of fears of his own impulses and

fantasies within. Writing as a gift of love must therefore find acceptance and reward from those for whom it is intended. Before the individual is put into the position of sharing his writing with others there ought to be careful preparation of the group so that its reactions are positive and appreciative of the good things that can be found in the writing.

Speaking and listening

The curriculum problem regarding speaking and listening arises from these tasks: (1) assessing the needs of this particular group of children; (1) providing resource material that can be used for dramatization, discussion, thoral reading, story telling and other uses of speech; (3) suggesting use of speaking skills in connection with all school subject areas; and (4) helping teachers with planning the school day to include speaking as an integral part of the business of the day.

Literature in curriculum

The curriculum makers' concern here is with resources first of all. A library for each elementary school is an essential. All curriculum work is to some extent handicapped if there is no elementary school library. Literature should be a part of the daily life of children; it should be read to them and it should surround them in the form of books, recordings, and the opportunity to dramatize. It is in dramatization and role playing that the literature acquires the kind of depth that makes a difference in children's basic feeling and understanding. The most important growing area with regard to literature is this deepening of experience through greater participation in literature by emotional reliving in dramatization and role playing.

Growing edge in spelling curriculum

It is probably sound to say that the first place to teach spelling is in connection with reading instruction. Careful attention to structural and phonetic elements of words as a part of learning to read tends to produce better spelling.

Based on the studies of writing needs of adults and children it appears that learning to spell two thousand of the most common words will meet ninety-five per cent of the writing needs of children and adults. Add-

depend on the group, of course. Each child should be encouraged to try different methods and select the ones that seem most useful to him.

Teaching spelling by machines looks promising at this point. Use of the machine is not going to mean that all other factors can then be ignored. Whether the child will learn from machine teaching is still dependent on many of the internal and external conditions developed so far in this text. But the machine may facilitate learning and it may free the teacher for other concerns. It may serve to remove spelling from the area of interpersonal conflict between the child and adult where this is an important factor in learning.

Handwriting

The most significant development in handwriting is the production of a system of writing that can be learned with maximum independence of the teacher. Current materials are generally inadequate for this purpose. The logic of the system must be obvious not only to teachers but also to children. A system based consistently on circles, parts of circles and straight lines can have this kind of logic. This logic can be easily conceptualized and becomes the basis of good handwriting. "It seems likely that we write according to the concept carried in the brain The written word is carried as a final pattern—a pattern of a motor complex."¹⁵ The circles and lines that form the basis of manuscript writing that is ordinarily taught in grades one and two and sometimes through grade three or longer also forms the basis of cursive writing. This makes the transition from manuscript to cursive writing easier whenever it comes. In making the transition, the curriculum worker will want to be assured that children are able to read the alphabet, words, and sentences written in cursive style quite easily before they are asked to begin cursive writing. There should also be a maintenance of manuscript writing skills throughout the elementary grades. Manuscript is a valuable tool that should not be dropped when the transition to cursive is made. A particularly systematic approach to handwriting is seen in the *You Can Write* series.¹⁶

Handwriting has been relatively neglected during the past few years partly because of other areas crowding into the curriculum and partly because of a lack of system of handwriting that could be learned efficiently and independently.

The handwriting period should be short—no more than fifteen

minutes—and it should be entirely devoted to the basic, systematic skill program. Application of these skills should occur during the rest of the day. A method of evaluation that can be used for all written work when desired should be secured. The *You Can Write* series provides transparent evaluation sheets for this purpose.

The future of FLES

Whether foreign language instruction will continue to make headway in the elementary school remains to be seen. Many object that children are being asked to learn a foreign language before they have learned their own well. Others emphasize the fact that young children are more plastic in their ability to learn new sounds and that a golden opportunity is being lost when the young are not started on a language. Penfield and Roberts in *Speech and Brain Mechanisms*¹⁷ point out that as far as their knowledge of brain structure and function goes it is important that children learn the speech sounds of other languages early. They also maintain that the emphasis on another language as being *different* is somewhat mistaken. They say, "The mechanism that is developed in the brain is the same whether one, two, or more languages are learned." If the direct method of learning is used the child simply learns other symbols for concepts. This argues for the current emphasis on aural-oral instruction with the use of other languages during the entire day as the opportunity offers.

However, there are other considerations of great importance. The teaching staff of the public schools is generally not equipped to teach language; they are also pressured by demands for more science, more mathematics, more reading, more citizenship, and more history, to mention a few. The school day remains the same and the move toward a longer school year is delayed by both curriculum planning problems and financial support problems. There are critical educational problems such as education for a free society and mental health which are poorly taught and for which only the meagerest provisions are made in the present curriculum.

The arguments for foreign languages in the elementary school are based on the efficiency of early learning and the need for languages in a shrinking world. It would be unfortunate, however, were languages to force out of the crowded elementary school curriculum the all-important personal and social-economic-political aspects so vital to maintenance of a free society.

The decision regarding foreign language at this level needs to be thought out and a theory of its contribution to elementary school curriculum developed.

The development of oral-aural methods of teaching languages has materially altered the foreign language curriculum. It has made foreign languages more interesting and more functional. Planned carefully over the entire span of the public school years the curriculum could result in reasonable competence in one language in that time. Instruction at the elementary level, if it is to occur should be casual but systematic with foreign language permeating the various aspects of the curriculum in the form of new words, expressions, new interpretations of English words derived from the other language. A decision should be made by the school system as to which language is to be taught. Training of the regular classroom teacher in the elementary school in the language is essential if the language is to permeate the day.

BIBLIOGRAPHY

MATERIALS ON DEVELOPING A SCOPE FOR SOCIAL STUDIES

- Michaelis, John U., *Social Studies for Children in a Democracy*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1956.
- Miel, Alice, and Peggy Brogan, *More Than Social Studies*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957, pp. 1-147.
- Stratemeier, Florence, H. L. Forkner, and M. G. McKim, *Developing the Curriculum for Modern Living*. New York: Columbia University Press, 1947.

MATERIALS ON ESTABLISHING A SEQUENCE FOR SOCIAL STUDIES

- Hanna, Lavone A., Gladys Potter, and Neva Hagaman, *Unit Teaching in the Elementary School*, Chap. IV. New York: Rinehart & Company, Inc., 1958.
- Michaelis, *Social Studies for Children . . .*, Chap. V.
- Miel and Brogan, *More Than Social Studies*, Chaps. IV, IX.
- Moffatt, Maurice P., and Hazel W. Howell, *Elementary Social Studies Instruction*, Chap. II. New York: Longmans, Green and Co., 1952.
- Stratemeier, F. B., M. G. McKim, and Mayme Sweet, *Guides to a Curriculum for Modern Living*. New York: Teachers' College, Columbia University, 1952.
- Toward Social Competence*. Philadelphia: Philadelphia Public Schools, 1950.

MATERIALS ON SOCIAL STUDIES AND PERSONALITY DEVELOPMENT

- Kubie, Lawrence, *Neurotic Distortion of the Creative Process*, Chap. III. Lawrence, Kansas: University of Kansas Press, 1958.
- Miel and Brogan, "Helping Children Feel Good About Themselves," *More than Social Studies*.
- Pfieger, Elmer F., and Grace L. Weston, *Emotional Adjustment: A Key to Good Citizenship*. Detroit: Wayne University Press, 1953.
- Watson, Robert I., "Psychosocial Development in Later Childhood," *Psychology of the Child*. New York: John Wiley & Sons, Inc., 1959.
- White House Conference on Children and Youth, *Personality in the Making*. New York: Harper and Brothers, 1952.

MATERIALS ON INSTRUCTIONAL PROBLEMS IN SOCIAL STUDIES

- Gronlund, Norman, *Sociometry in the Classroom*. New York: Harper and Brothers, 1959.
- Hilliard, Pauline, *Improving Social Learnings in the Elementary School*. New York: Teachers College, Columbia University, 1955.
- Hunnicut, Clarence W., and Jean Grambs, "Social Studies under Fire," *Elementary School Journal*, LVI, No. 4 (January, 1956), 210-16.
- Jennings, Helen H., *Sociometry in Group Relations*. Washington, D. C.: American Council on Education, 1951.
- Miel and Brogan, *More Than Social Studies*, Chaps. 12-15.
- Shaftel, Fanny and George, *Role Playing the Problem Story*. New York: National Conference of Christians and Jews, 1952.
- Taba, Hilda, John Robinson, Elizabeth Brady, and William Vickery, *Diagnosing Human Relations Needs*. Washington, D. C.: American Council on Education, 1951.
- Trager, Helen G., and Marian R. Yarrow, *They Learn What They Live*. New York: Harper and Brothers, 1952.

MATERIALS ON SOCIAL STUDIES IN THE SCHOOL DAY

- Ellsworth, Ruth, and Ole Sand, *Improving the Social Studies Curriculum*. Washington, D. C.: National Council for the Social Studies, 26th Year-book, 1955.
- Teachers' Guide to Education in Early Childhood*, Chap. XVIII. Sacramento, Calif.: California State Department of Education, 1956.

MATERIALS ON EVALUATION

- Michaels, *Social Studies for Children . . .*, Chaps. XV, XVI.
- Preston, Ralph C., *Teaching Social Studies in the Elementary School*, Chap. XIV. New York: Rinehart & Company, Inc., 1958.
- Wrightstone, Wayne J., *Evaluation in Modern Education*, pp. 293-306. New York: American Book Company, 1956.

MATERIALS ON TEACHER COMPETENCE

- Miel and Brogan, *More Than Social Studies*, Chap. 15.
 Sharp, George, *Curriculum Revision as Re-education of Teachers*. New York: Teachers' College, Columbia University, 1951.

MATERIALS ON SPELLING CURRICULUM

- De Boer, John, ed., "Studying Spelling Independently," *Elementary English*, January, 1960.
 Dolch, Edward W., *Better Spelling*. Champaign, Illinois: Garrard Press, 1942.
 Hanna, Jean S. and Paul R., "Spelling as a School Subject: A Brief History," *National Elementary Principal*, XXXVIII (May, 1959), 17-23.
 Hildreth, Gertrude, *Teaching Spelling*. New York: Henry Holt and Company, Inc., 1955.
 Horn, Ernst, *Teaching Spelling*. Washington, D. C.: National Education Association, 1954.

MATERIALS ON FOREIGN LANGUAGE CURRICULUM

- Caswell, Hollis L., "Modern Foreign Languages in a Modern Curriculum," *Education*, 75, No. 8 (1955), 483-489.
Foreign Language Teaching in Elementary Schools. Washington, D. C.: Association for Supervision and Curriculum Development, National Education Association, 1958.
 Guerra, Manuel H., "Future Teachers of FLES," *Modern Language Journal*, XL, No. 1 (1956), 7-12.
Instructional Guide for Spanish in the Elementary Schools. Los Angeles: Los Angeles Public Schools, 1957 (Revised).

FOOTNOTES

1. Miel, Alice, and Peggy Brogan, *More Than Social Studies* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957), p. 134.
2. Taba, Hilda, and Deborah Elkins, *With Focus on Human Relations* (Washington, D.C.: American Council on Education, 1950), pp. 146-88.
3. *Building Curriculum in Social Studies for the Public Schools of California*, Bulletin, Vol. XXVI, No. 4 (Sacramento, California: State Department of Education, 1957).
4. Tryon, Caroline, and Jesse W. Lilienthal, "The Tasks of Five Stages of Development in Ten Categories of Behavior," *National Education Association Journal*, 39, No. 3 (1950).
5. Havighurst, Robert J., *Human Development and Education* (New York: Longmans, Green & Company, 1953).

6. Michaelis, John U., *Social Studies in a Democracy* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1956), p. 12.
7. Miel and Brogan, *More Than Social Studies*, pp. 217-18.
8. Stratemeyer, Florence B., Margaret G. McKim, and Mayme Sweet, *Guides to a Curriculum for Modern Living* (New York: Bureau of Publications, Teachers' College, Columbia University, 1952), p. 18.
9. Miel and Brogan, *More Than Social Studies*.
10. Kubie, Lawrence, "The Psychiatrist Considers Curriculum Development," *Teachers College Record*, L, No. 4 (1949), 241-46.
11. Kubie, Lawrence, *Neurotic Distortion of the Creative Process* (Lawrence, Kansas: University of Kansas Press, 1958), p. 110.
12. Veatch, Jeannette, *Individualizing Your Reading Program* (New York: G. P. Putnam's Sons, 1959), pp. 12-13.
- 12a. Hall, Robert A., "Descriptive Linguistics and the Teaching of English," *Education*, 73, No. 6 (1953), 360-67.
- 12b. Lloyd, Donald J., "The Child Who Goes to School," *Elementary English*, XXX, No. 7 (1953), 411-16.
13. Gattegno, Caleb, *A New Method of Teaching and Writing*. Copyright by C. Gattegno, 1960. Mimeographed.
14. Gilbert, Luther C. and Doris W., "The Improvement of Spelling Through Reading," *Journal of Educational Research*, 37 (1944), 458-63.
15. Penfield, Wilder, and Lamar Roberts, *Speech and Brain Mechanisms* (Princeton, New Jersey: Princeton University Press, 1959), p. 249.
16. Haan, A. E., Esther McNeil, and Bernadine C. Wietson, *You Can Write* (Boston: Allyn and Bacon, Inc., to be published 1961).
17. Penfield and Roberts, "Epilogue—The Learning of Languages," Chap. XI, *Speech and Brain Mechanisms*.

development. Art involves an active, seeking relationship to the environment. In working with the materials of the environment the child attempts to understand it, to understand himself, and, in a measure, to "manage" his environment, to reduce it to understandable dimensions.

Art teachers learned before many other teachers did the importance of giving the child autonomy in the learning and exploring processes of art. The sequential organization of experiences in art is dependent on understanding children's developmental stages. Each child progresses through clearly marked stages, from simple manipulation, crude symbolism of shapes or marks that have meaning to him, to more highly skilled and finished art forms. The exact grade placement of skills and techniques is difficult to determine; it will depend on children's stages of development and experience. Elementary children should be free to select the mode of expression appropriate to their own creative ideas. They will learn to select among many media the one that is most appropriate to their ideas.

The use of art experiences to help children understand themselves and others can be further developed. Yochim¹ writes that "Creative experiences provide outlets for the release of strains and tensions and engender within individuals sympathetic and appreciative attitudes; and the creative realm embodies an inexhaustible reservoir which can be instrumental in generating the finest feelings among men."

Because art expression is so central to personality development the products of children have particular significance for the teacher who wants help in understanding the meaning the child's behavior has to the child himself.

Lowenfeld² has identified six stages of art expression and human development. The first of these, the scribbling stage from age two to four, corresponds to the stage of personality development in which the dominant problem is that of the individual's autonomy. Lowenfeld's second stage, the preschematic stage from age four to seven in which the first representational attempts begin, corresponds broadly with the stage of personality development in which the dominant problem is that of the individual's struggle for a sense of initiative. The third stage of art development mentioned by Lowenfeld is the schematic stage from age seven to nine in which there is some achievement of a form concept; this corresponds to the early latency years when the child is separating himself in some degree from his dependency on parents. Lowenfeld's fourth stage is the gang age in which there is dawning realism; this corresponds with the personality

10. FRONTIERS IN CURRICULUM MAKING: THE ARTS, MUSIC, AND PHYSICAL AND HEALTH EDUCATION

THE SUBJECT AREAS with which this chapter is concerned are by no means less important than those preceding. In fact in the unfolding of individual growth patterns as they have been described in this text these subject areas function more directly in helping children than any others. In a book for the curriculum worker, however, it may be justifiable to give more emphasis where there is more uneasiness, and this is true in mathematics, science, social studies, and the language arts.

GROWING EDGES IN ART CURRICULUM

Art grows out of work with the hands and mind and out of the desire for self-expression and self-adjustment. Basically it arises from working with materials, paint, clay, metal, cloth, wood, chalk, charcoal, ink, paper, stone, leather, and from one's emotional reaction to the self and the environment in which one lives. The relation of the child to materials depends upon the stage of his

refocused in school are felt by him to lie outside the school's concerns. We need to experiment with some aspects of industrial arts, including the mechanical, in the elementary school. The functions of this curriculum should be broadly, personality development which includes an understanding of all the activities of men, and a sense of identity for those who want to use the experiences either to give them a sense of being or who can find in the experience a way of filling out their conception of what they are able to do.

GROWING EDGE IN MUSIC EDUCATION

Rhythm and sound are all about the growing child from birth, when he is rocked, held, and sung to, and when he hears all the sounds there are about him. The problem of the curriculum maker in music is to increase the use of music by children for emotional and creative release. The step-by-step curriculum that dulled so much interest in school music has been superseded by freedom to enjoy music, to participate in and to choose musical experiences. Rather than being isolated to a period, and sometimes to a special teacher only, music should fill the day, relating to different activities, illuminating the pioneer's history, helping children understand the spirit of another culture, or giving them the feeling of the sea through chanteys. In the school day, the creative teacher uses listening and singing when the time is right, artistically using music as his sensitive reaction to children indicates it will help them enjoy and grow.

Music education in schools may be dated from Boston schools in 1837. Through the great efforts of Lowell Mason and Charles Aiken music education became a recognized part of the curriculum. Until about 1885 music was gradually taught by a special music teacher, but after that date the subject was placed in the hands of the regular teacher. Around the turn of the twentieth century the child-study movement then in full swing served to emphasize broad participation and enjoyment of music by every child.

The curriculum worker is interested in four recent trends in the field. The first of these is the growth of music appreciation. Generally this program is a separate program. Music now has two places in the curriculum, one in relation to other subject areas, the social studies or language arts, for example. This is the use of music, however, as social studies or as language arts, to increase understanding of people in a certain era or to give the

development stage of later latency when the child is struggling to become competent. The fifth art stage is termed the stage of reasoning by Lowenfeld or the "pseudorealistic stage," and occupies the years between eleven and thirteen; this corresponds to the early adolescent personality development stage when the major conflict is around building a sense of identity. The sixth stage of art growth is termed the "period of decision" by Lowenfeld and corresponds to the personality development stage in which the struggle for warm human relationships is central.

One of the growing edges in art curriculum is the further elaboration of what is known about the use of art experience in resolving the basic problems of personality development. Another aspect of this growing edge is the importance to creative art of freeing individuals from neurotic problems through art and also through the various means to self-knowledge discussed in the text and its references.

GROWING EDGE IN THE INDUSTRIAL ARTS

In a balanced curriculum the sharp distinctions between subject matter areas tend to disappear. What is art or industrial art or craft or science is not so important as the opportunity for children to have experiences with the wide range of materials and processes that make up that technological world in which they live. The materials may, and usually do, involve aspects of all four subject areas mentioned. Industrial arts at all public school levels is basically general education. It is a study of the processes by which we have changed and will continue to change the environment to make it fit our needs. The main purpose is not vocational preparation although contact with the industrial arts may result in "discovery" by children that this is an area in which they like to work. The growing edge in this area is better curriculum development for the first six grades.

The broad, general education purposes that can be met by increasing contact with industrial arts are shared by other aspects of the curriculum. In present curriculum practice however, a segment of human experience is often closed to children. Children, usually boys, who like to fit and take apart and screw and hammer and make things mechanical have to find opportunity for it outside of school. This in itself is not unfortunate if there is an "outside" that lends itself to this except that these real interests that the school does not support and that are not shared by other children tend to lead the child away from school learning. His interests instead of being

HEALTH AND PHYSICAL EDUCATION

The values of physical education are varied. The at-homeness with one's body which is such an essential part of the developing identity can be well served by a physical education program that is carefully planned and carried out with regard to individual differences. The playing field offers unexcelled opportunities for understanding a child's personality growth problems. Here where the immediate situation is intense and active there are many chances to work with children on emotional and character problems.

Scope

The scope of elementary physical education is broadly indicated by Van Hagen⁸ in the statement of objectives below:

Development of—

- basic muscular strengths and coordination
- correct postural habits and ability to relax
- mastery of physical powers, with capacity for sustained effort through the exercise of the large muscles and vigorous play
- body poise and creativity in motion through enjoyable rhythmical activities
- sufficient skill in motor activities to provide pleasure and satisfaction
- individual's interest in maintaining his own optimum physical, mental, social, and emotional well-being
- individual's desire to appreciate and master worth-while physical recreational skills
- social integration of each within the group
- emotional stability through frequent and vigorous participation in activities within the capacity of the individual to realize
- desirable social attitudes such as leadership, subordination of the individual to the welfare of the group
- sense of individual and group responsibility for civic behavior on the playground, in school and in the community
- courage, initiative, alertness, self-control and cooperation in group activities or individual games

It is apparent that physical education shares many broad objectives with other school experiences. In trying to describe the scope of the physical education curriculum, Vannier⁹ has listed these items: rhythmical activities, games of low organization, relays, mimetics, story plays, camping and outing, athletic team games, aquatics, and stunts. Cowell¹⁰ on the

sense of rhythm found in poetry and music. Music must have a separate period where it exists for itself as an art form to be understood and enjoyed as such. Gehrken³ wrote of this problem, "There is an element of danger in all this—the danger that in showing the connection of music with other things we shall therefore cause them to fail to understand its structure and texture, to fail even to be aesthetically moved by its sheer beauty and thus to lose the very thing for which our art primarily exists."

The second of the current trends is that rote singing is replacing note singing. It is thought that rote learning tends to free the child from the frustrations around music that often resulted from forced drill and work with note reading and musical notation. Its importance in building musical readiness has been noted by Beeler. Rote singing also results in much more singing and more hearing, the basis of both enjoyment and growth.

A third change in music curriculum involved the function of the music supervisor. The music supervisor or consultant now functions as an aid to the teacher, setting up workshops for teachers to learn about music teaching, helping the teacher with material and procedures, and in other ways acting as a resource person for the classroom teacher.⁴

The fourth trend is in the music therapy field. Although this development is well known in relation to hospitals and handicapped children's program, its use in the school is by no means common. Harbert⁵ and Josepha⁷ have called attention to the flexible nature of the program and its dependence on the skill and sensitivity of the teacher. Harbert lists the following as the purposes of music therapy.

- To develop social awareness
- To build positive and satisfactory behavior attitudes
- To bring about feelings of security within the total situation
- To provide physiological release through rhythmic activity
- To discover psychological reaction to content of music (all phases)
- To encourage independence where it is needed
- To stimulate communication through music
- To encourage an orderly, well-structured music program
- To help the whole child through music to achieve his fullest capacity, physical, emotional, and mental health

Certainly not enough attention has been given to the relation between general personality growth and music. This is one of the purposes of the music therapy movement. That it will be a difficult problem for the curriculum maker is obvious.

source materials with suggestions for things to work on, for example, lighting, posture, cleanliness, care of colds, eating between meals, or clothing suited to temperature.

The second broad area for increased attention is that of mental health as it is related to developing self-knowledge and hence emotional maturity. Some excellent text series are now available in health education that integrate with physical health the major problems of mental health. Two of these are the Scott, Foresman¹² series and the Laidlaw¹³ series. It would be a mistake, of course, to rely on text material alone for this important curriculum problem. The daily living situation in the classroom is the best raw material for such discussions and insight.

The combination of health with physical education is, of course, not a new goal of the curriculum maker, but the two are frequently separated when too much emphasis gets placed on games and particularly competitive games.

The most important issue before the curriculum maker is probably the information and attitudes of teachers in the health field. That it has been a relatively neglected area is largely due to teacher indifference and occasionally to a feeling that concern with one's health was colored by some hypochondriacal concern. Added to this, of course, has been the great community pressure for what are regarded as "basic" subjects. There is now general agreement that health belongs integrated as a part of living in the classroom, but there should also be separate periods for direct instruction in health and mental health. The materials below are intended to allow the student to develop fully his ideas as to the detailed curriculum work involved in the field.

BIBLIOGRAPHY

MATERIALS ON CURRICULUM DEVELOPMENT IN ART

- Greenacre, Phyllis, "The Childhood of the Artist," 12th Yearbook, *Psychoanalytic Study of the Child*, New York: International Universities Press, Inc., 1957, pp. 47-71.
- Jefferson, Blanche, *Teaching Art to Children*. Boston: Allyn and Bacon, Inc., 1959.
- Lowenfeld, Viktor, *Creative and Mental Growth*. New York: The Macmillan Company, 1957.
- , "Creativity and Art Education," *School Arts*, 59 (October, 1959) 5-15.

other hand lists as items of the scope these six: games, aquatics, self-testing activities, dance, camping and outdoor activities, and body-building and corrective activities. The San Francisco program reduces the items to basic skills, games, rhythmic skills, stunts, and posture.¹¹

Problems of sequential development

One of the problems on which elementary curriculum workers need to spend more time in many schools is the sequential development of skills. The hit-or-miss development that comes from the physical education program that consists entirely of games cannot achieve for the child the kind of competence he needs at higher levels for adequate participation in many important sports. Although such a sequence is most desirable, the pattern of sequence also must be conditioned by the great differences in physical ability and readiness that exist in elementary school children. Individual help with skills apart from the large group is essential for many children.

Many good programs of sequential development in physical education have been worked out. The references are selected to help the curriculum worker with this problem.

Teacher education

The teacher's preparation and interest in the physical education program is, of course, crucial. The basic program for physical education in general training for teaching needs to be supplemented by workshops for teachers and the help of specially prepared teachers who can help teachers learn to carry out a comprehensive program with their classes. This has been one of the weak points of elementary physical education programs. As with all other curriculum areas we cannot expect that college training will suffice; the in-service program of demonstrations, workshops, and curriculum development may be much more fruitful.

Health education

There are five broad problems with which the curriculum maker is concerned in this field. The first is how to realize on the generally accepted purpose of making the entire day at school a time of instruction and living healthfully. The curriculum job here is direct teacher in-service education on the opportunities for such healthful living and the preparation of re-

Halsey, Elizabeth, and Lorena Porter, *Physical Education for Children: A Developmental Program*. New York: The Dryden Press, Inc., 1958.

MATERIALS ON HEALTH EDUCATION

- Jones, Edwina, Edna Morgan, Paul Landis, Charles Good, *Road to Health Series*. River Forest, Illinois: Laidlaw Brothers, 1959.
- Willgoose, Carl E., *Health Education in the Elementary School*. Philadelphia: W. B. Saunders Company, 1959.
- Wheatley, George M., and Grace T. Hallock, *Health Observation of School Children*. New York: McGraw-Hill Book Company, Inc., 1955.
- "Helping Children to Maintain and Improve Health," in *Education in Later Childhood*. Sacramento, Calif.: California State Department of Education, 1957, pp. 117-40.

FOOTNOTES

1. Yochim, Louise, *Building Human Relationships Through Art* (Chicago: L. M. Stein, 1954).
2. Lowenfeld, Viktor, *Creative and Mental Growth* (New York: The Macmillan Company, 1957).
3. Gehrken, Karl, *Music in the Grade Schools* (Boston: C. C. Birchard and Company, 1934), p. 146.
4. Beeler, Lola A., "Music Reading Readiness," *Educational Music Magazine*, September-October, 1948.
5. Dawley, Muriel, and Roberta McLaughlin, "Role of the Music Consultant," *National Elementary Principal*, Washington, D. C.: Department of Elementary School Principals, National Education Association, December, 1959.
6. Harbert, W. K., "Music Therapy Clinic—A Bridge from Home to School," *Music Therapy 1959* (Lawrence, Kansas: National Association for Music Therapy, Inc., 1959).
7. Sister M. Josepha, O. S. F., "Relating Music Therapy and Music Education," *Music Therapy 1959*.
8. Van Hagen, Winifred, Genevieve Dexter, and Jesse F. Williams, *Physical Education in the Elementary Schools* (Sacramento, Calif.: California State Department of Education, 1951), p. 4.
9. Vannier, Maryhelen, and Mildred Foster, *Teaching Physical Education in Elementary Schools* (Philadelphia: W. B. Saunders Company, 1958), p. 80.
10. Cowell, Charles, and Helen Hazelton, *Curriculum Designs in Physical Education* (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955), pp. 73-74.

- Mendelowitz, Daniel, *Children Are Artists*. Stanford, California: Stanford University Press, 1953.
- Naumberg, Margaret, *Studies of the "Free" Art Expression of Behavior Problem Children and Adolescents as a Means of Diagnosis and Therapy*. New York: Coolidge Foundation Publications, 1947.
- Research in Art Education*. Washington, D. C.: National Art Education Association, 9th Yearbook, 1959.

MATERIALS ON INDUSTRIAL ARTS CURRICULUM

- A Guide for Teaching Industrial Arts K-6*. Bakersfield, California: Kern County Schools, 1959.
- Industrial Arts Education for Elementary Grades*. Bulletin 76 F-1. Tallahassee, Florida: Florida State Department of Education, 1959.
- Scobey, Mary-Margaret, *Industrial Arts for Elementary Teachers*. Stanford University, Unpublished Ed.D. dissertation, 1952.

MATERIALS ON MUSIC CURRICULUM

- Andrews, Frances M., and Clara E. Cockerille, eds., *Your School Music Program*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1958.
- Birge, Edward B., ed., *History of Public School Music in the United States*. Bryn Mawr, Pennsylvania: Oliver Ditson Company, 1938.
- Breidenthal, Mynatt, ed., "The Music Therapy as a Special Education in the Public Schools," *Music Therapy*, 1958. Lawrence, Kansas: National Association for Music Therapy, Inc., 1959.
- Dawley, Muriel, and Roberta McLaughlin, "Role of the Music Consultant," *The National Elementary Principal*, December, 1959.
- Molnar, John W., "Changing Aspects of American Culture as Reflected in the MENC," *Journal of Research in Music Education*, Fall, 1959.
- Mursell, James L., ed., *Music Education Principles and Programs*. New York: Silver Burdett Company, 1956.

MATERIALS ON DEVELOPMENT OF SCOPE IN PHYSICAL EDUCATION

- Desirable Athletic Competition for Children*. Washington, D. C.: American Association for Health, Physical Education and Recreation, 1952.
- Van Hagen, Winifred, Genevieve Dexter, and Jesse Williams, *Physical Education in the Elementary School*. Sacramento, California: California State Department of Education, 1951.
- Vannier, Maryhelen, and Mildred Foster, *Teaching Physical Education in Elementary Schools*. Philadelphia: W. B. Saunders Company, 1958.

MATERIALS ON SEQUENCE IN PHYSICAL EDUCATION

- Cowell, Charles, and Helen Hazelton, *Curriculum Designs in Physical Education*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955.

4

PROBLEMS OF CURRICULUM DEVELOPMENT

11. San Francisco Unified School District, *A Guide for Teaching Physical Education: Grades K-6*, 1959, p. 3.
12. Shacter, Helen S., Gladys G. Jenkins, and W. W. Bauer, *Into Your Teens* (Chicago: Scott, Foresman and Company, 1951).
13. Jones, Edwina, Edna Morgan, Paul E. Landis, and Charles Good, *Road to Health Series* (River Forest, Illinois: Laidlaw Brothers, Inc., 1959).

The definition of the term concept is itself not easy to put together from the contributions of psychology and logic. Concepts appear to link separate sensory impressions or percepts. The completeness and complexity of concepts appear to depend upon a gradual process of building associations or systems above the direct sensory data. Children, and adults, upon repeated experience with situations in which there is a common element, e. g., the color red, seem to develop a concept of redness which they then employ independently of the situations in which it was learned. We say the child has abstracted it from different situations. Or he may integrate sense impressions to form the concept of a triangle after seeing many different kinds of triangles. Although all concepts are based first on experience with concrete things involving direct sensory impressions, the more advanced concepts probably no longer depend upon sensory experiences but upon complicated related associations already established.

The usefulness of concepts lies in their function as tools of thinking and communicating. They help the individual make sense out of the thousands of millions of objects, ideas, and events that make up the world. As Johnson says, "If someone knows what is a *dax* and what is not, he can with a trifle more effort, classify anything as *dax* or not *dax*. If he can use one thing that is a *dax* to solve a problem, he may be able to use another thing that is a *dax* in the same way."¹ Concepts also help the individual talk to other people and make sense, if his concepts are the standard ones in our society. The clarity of the concepts we have makes it possible for us to act with full comprehension, with speed, with exactness. Fuzzy concepts, and we all have a great many of this kind, make for fuzzy thinking.

A *generalization*, on the other hand, is a statement of a relation between two or more concepts. It varies as to preciseness and looseness of statement. The distinction that is made between generalizations and concepts, that concepts are learned by abstracting the same qualities from a number of different situations, e.g., greenness, whereas a generalization is learned by abstracting detail from a group of objects or situations, actually serves to point up the indefinite line between them.² The point at which the thought process occurs is more determinant of whether it is a concept or a generalization than anything else. A drawing together of a principle after studying a number of situations is a generalization procedure; however, this same principle is used in taking another step in showing the relationship between it and still another principle. *Basically generalizations are the result of problem solving.*

11. SOME TECHNICAL ASPECTS OF CURRICULUM WORK

THERE ARE A NUMBER of technical, practical problems in curriculum development shared by different subject matter areas. These can be treated more efficiently in a separate chapter. The topics with which the chapter is concerned are (1) the use of concepts and generalizations in curriculum development, (2) the development of behavioral objectives and their uses, (3) the library as a curriculum aid, and (4) the materials service center.

USE OF CONCEPTS AND GENERALIZATIONS

Children pick up a very large number of concepts in the course of learning to read, in the social studies, in science, in mathematics, and in the course of getting about their homes and communities. Although writers and researchers have produced some excellent listings of concepts and generalizations, several areas of study are without adequate development of concepts. This is particularly true of mathematics, science, and the social studies.

work at different kinds of jobs to gain the same end. (3) Daddies work at different hours because of their different kinds of work. (4) Daddies' work determines the time they can spend with us and things we can do together. It illustrates well the idea that a teacher should concentrate on a relatively few important concepts and generalizations and that better learning takes place if the experiences are diverse, not repetitive.

Wesley and Adams⁴ group the social studies concepts that point toward human relationships into a number of major classes. Some of these are listed below:

action: serve, entertain, thinking
agency: company, mediator, clerk, ticket
behavior: worship, lawlessness, begging, lying
change: new, develop, larger, improved
communication: holiday, publishing, newspaper, poem, speak
group: class, army, board, team
institution: university, marriage, religion, government
process: voting, impeaching, packing
status: poor, fortunate, private, health

Hanna⁵ has suggested organization of the social studies curriculum around these concepts: change, natural resources, technology, interdependence, conflicting ideologies, role of government, culture, intergroup relations, population changes, values, and human behavior.

Whether such lists are valuable for the social studies curriculum worker will depend on the use made of them. The basic unit for thinking about curriculum is the experience appropriate to the developmental stage and task; about this experience as a nucleus the concepts and generalization related to it may be grouped. Lists of concepts and generalizations may also suggest experiences, but in this process the teacher needs to sense a constellation of concepts that suggest an experience that can have meaning for the particular children he has. This is a creative task in itself. Out of educational practice many experiences suggest themselves. These can be adapted, modified, and used in a new context of purposes. It is unfortunate that there are not many more protocols from good classroom practice that we could use for this purpose.

Generally too many concepts are introduced at one level, and the consequent overemphasis on the verbalisms results in concepts that are hazy and unusable. Certainly the best teaching involves repeating concepts in new

The concepts and generalizations we use are at first general. For example, below are listed some of the *concepts* used by elementary school children in thinking about *relationships* involved in that aspect of mathematics we have termed position:

up	compared to	border
down	comparatively	front
distant		
far	far apart	even
near	relatively far apart	at an angle to
close	relatively near together	out
south	relatively far	space
east	relatively near	where
west	under	there
north	edge	here
horizontal	over	direction
vertical	border	reference point
in	relatively	same position
above	inclined	surface
opposite	declination	central
plane	parallel	in a plane
diverging	converging	horizontal plane
inclined plane	vertical plane	latitude
zenith	peripheral	perihelion

This is not a complete list of concepts related to *position*. The careful development of such a list, graded as to difficulty, perhaps grouped around key experiences, remains as one of the jobs to be done. It is not hard to see that before children can talk about or work problems about any of the aspects of mathematics they must understand the broad *relationships* first. Then as we go along we reach for an increasing complexity of manipulation of numbers to indicate these relationships.

Building concepts and generalizations has to be a gradual experience. Teachers cannot give a child a concept. It grows through his own experiences. The teacher has an important role throughout the process in providing experiences from which concepts can be learned and deepened and in helping children generalize on experience. It is clear that unless facts are associated with concepts and generalizations, they are lost to meaningful recall. Here the teacher helps to draw out the generalizations children can draw from their experiences and make them explicit. Taba⁸ describes how a first grade teacher developed the four generalizations following: (1) Daddies go to different places to work and do different jobs. (2) Daddies

furnish symbols that will help the child utilize the concept in communication, or to wait. Concepts may be visual, auditory, or motor, and their utilization in practical situations need not always require verbalization.

11. From each of the subject areas, the social studies, mathematics, science, art, language arts, music, and industrial arts, the student acquires many concepts that are useful in all areas. A deliberate attempt to build on these should be included in teaching; this argues for increasing attention to productive kinds of integration—but not miscellaneous throwing together of experiences.

BEHAVIORAL OBJECTIVES AND THEIR UTILIZATION

At some point in the lengthy process of curriculum development the major goals have to be broken down into the specific behaviors expected of children. This is a detailed and somewhat tedious business which should be carried on over a considerable period of time. Any evaluation program is based on such a process, however.

Variety of objectives

The objectives with which schools are concerned are varied. They include appreciations, values, understanding, application of method, knowledge, personality growth, and others that were not the primary concern of schools until this century. It is recognized that many kinds of learning may result from the child's being involved in one experience. Our experience in developing curriculum from the analytical method of listing innumerable objectives has not been satisfactory. Somehow the objectives never got together again in any meaningful way.

Need for bundling

In some way the objectives that are interrelated must be put back together in a way that suggests learning situations already used in the classroom. This is a kind of two-way street in which we use both the analytical approach of stating the objectives we intend to accomplish and the integrating effect of studying situations that have seemed profitable for children in the classroom. When we get through we have a series of bundles or learning experiences around which are grouped more specific behavioral objectives drawn from the over-all list of objectives. This practice of carrying the curriculum making process past the statement of behavioral objectives into the "bundle"

situations so that the cluster of meanings around the term deepens and widens.

In general the implications for education of what we know so far about concepts and generalizations include:

1. Generally experience with concrete objects seems the first requirement in developing concepts. As these sensory experiences are taking place there must also be an attempt to provide symbols for these concrete experiences, but again not too soon.
2. Brighter children can deal better with language symbols and use them to develop concepts and to think. Slower pupils probably need more exposure to sensory experiences.
3. The use of visual aids helps communication between teachers and pupils, for then the differences in concepts of adults and children do not get in the way of communication. Two teachers had been discussing the best way to teach children the direction in which the hands of the clock go. Several suggestions were made; however, a second grader solved it nicely by suggesting that the hand followed the numbers from smaller to bigger.
4. Combinations of abstract presentations and concrete examples probably are more effective than either alone.
5. The school will get better results if children's attention is called to the common elements in various learning situations.
6. Concepts are learned more readily and with more complex structure if the situation in which they are learned is one in which the child wants to learn *meaning* of the concepts as well as their names.
7. Concepts learned in some logical relationship to those preceding are remembered longer than concepts approached hit-or-miss.
8. Often the concept to be learned is so involved with other kinds of information that the child cannot pick it out; also the perceptions he is asked to make are not clearly indicated by the material or the procedure of the teacher.
9. A comparison of what a concept does mean with other things that it does *not* mean helps fill in the child's notion of the meaning of the concept. An isosceles triangle, e.g., is a triangle with two sides and opposite angles equal. A scalene triangle is *not* isosceles because none of its sides and none of its angles are equal.
10. Not all generalizations and concepts are capable of verbalization by the individual. When a child says, "I know it but I can't explain it," he may very well have an accurate concept that he cannot symbolize. Teacher's function at this point may be to

1. Interview with the pupil.
2. Small group conferences with pupils provide the teacher with a chance to catch attitudes and understandings.
3. The daily log provides the teacher with a record of the complexity of the learning bundle.
4. Anecdotal records of pupils give factual information needed to pinpoint difficulties and achievement.
5. Parents' reactions picked up in informal conversation and in parent-teacher conferences are useful in determining the utilization the pupil makes of mathematics outside of school.
6. The pupil's classroom work, questions, papers, and workbooks are other sources.
7. Pencil and paper tests are adapted to many kinds of evaluation, not all.
8. Reports to the class, work on projects, things brought to school indicate other kinds of attitudes and understandings.
9. The guided discussion gives the teacher a chance to evaluate the pupils' ability to reason logically and use information.
10. Observations of pupils at work often give teachers a means of following the pupil in his thought processes.
11. Listening to discussion of pupils in groups or informal contacts also gives us a chance to evaluate many aspects.

The experience bundle

The use of the idea of grouping objectives around experiences seems to promise fuller use of the experiences of teachers in building curriculum with children. We can gradually accumulate evaluated experiences that children have and, by testing them against the goals and behavioral objectives derived from the goals, we can develop a curriculum that accomplishes the complexity of learnings involved in modern living.

ORGANIZATION OF MATERIALS SERVICE

Instructional materials center

The instructional materials center is a comparatively new aid to curriculum development. Its rapid acceptance and growth has been due to several factors. One of these is the growing awareness that learning is always a multiple affair, that we need to approach children through many different avenues. Research has also shown that some children can learn better through one sense modality than another. The greater ease of learning

stage is necessary if teaching is to be effective. This is a step that consultants of curriculum projects sometimes leave to the teacher. However, it does not get done because teachers are very much preoccupied with the demands of daily preparation and teaching. From this arises two considerations: first, that curriculum development programs need to be much closer to the daily classroom problems than is sometimes the case; and second, that teachers need more time and financial aid to make their contribution to the curriculum program.

Bundling illustrated

An illustration of the "bundling" procedure is taken from the area of mathematics. Let us take *measuring* as an example and, in particular, teaching the concept of measuring as consisting of using some agreed-upon unit over and over again; it is apparent that we can bundle around this experience quite a number of the objectives in whose attainment we have an interest.

Learning experience bundle:

Developing the concept of measuring as repeated use of agreed-upon unit.

Using the classroom, laboratory materials, the outside playground, and the children in the room.

A bundle of objectives partially reached by this experience:

- a. Attitude: wanting and expecting to be active in learning a new thing.
- b. Concept: concept of *measure*.
- c. Generalization: measuring anything consists of using the same unit over and over again and counting the number of times used.
- d. Understanding: why it is important to agree on the size of the unit we are to use in measuring.
- e. Skill: use of a foot rule.
- f. Habit: preceding measurement with estimation.

Evaluating the bundle

The evaluation of such complexes of experience is not as simple as previous methods of evaluating mathematics progress. Obviously the evaluation methods must be as complex as the experiences involved in learning.

The services furnished by the materials center may include these:

1. Supplies materials that are needed for exceptional curriculum or pupil needs
2. Encourages the development of instructional materials centers in each school; the vitality of the centers in the individual schools will depend upon consistent servicing and encouragement by the main materials center under the direction of a well-trained specialist in materials
3. Informs teachers of the existence of materials; familiarizes teachers with new kinds of materials
4. Helps teachers to select and use materials
5. Trains pupils and teachers in the use of equipment and materials
6. Works with teachers to coordinate instructional materials with the curriculum
7. Stores and maintains equipment
8. Budgets for instructional materials
9. Informs the public as to the services rendered by the center

The materials center is a place where teachers may come individually to work with materials or in committees working under professional leadership. The atmosphere of a good materials center is that of a work situation. There should be room facilities and equipment that teachers and others may use in the study of construction of various kinds of instructional aids.

School library and the materials center

The school library may be set up separately from the instructional materials center. There is at present some difference of opinion regarding the advisability of using school libraries as material centers. Irene Cypher* has maintained that school libraries do not carry out their main function well if they must also perform the services of the materials center. Others* apparently feel that the school librarian may need to be trained to perform the functions now involved in running a materials center. It seems, however, that the decision as to whether a school library can become also an instructional materials center would have to be made in the light of the particular situation that the school district faces. In general, the separation of the two services seems advisable if there can be close coordination.

* See Bibliography.

through one sense modality than through another may be related to eventual vocational choices and to the kinds of creativity of which the individual is capable. Another cause of the rapid growth of the materials center is the broadening of the curriculum as the school attempts to meet the challenges of an increasingly varied and complex world. As the curriculum has broadened, the need for helping teachers with materials has become crucial indeed. The relationship of varied materials to full development of concepts and generalizations is clear.

Along with the changes in curriculum the kinds of aids available have also increased in nearly all fields. The selection, storage, and distribution of these materials and their relationship to the curriculum of the school has become a major job requiring the development of specialists in this area. The textbook and the library book are now supplemented by many aids to teaching. Now the instructional materials center is tied in closely with in-service teacher education and therefore with curriculum development throughout the school system. The relationship of the instructional materials center to the curriculum coordinator or consultant, the supervisor, and the teachers is a very close one, nor can its activities and services be separated from the general goals of the school system.

Organizationally, there are probably three levels of instructional materials centers: a central one for the school district, a materials center in each school building, and a materials center in each classroom.

Services of the materials center

The materials collected and distributed by the instructional materials center depend upon the curriculum of the particular school system that it serves. A center usually contains such materials as these:

Textbooks	Magazines
Reference materials	Pamphlets
Professional books	Newspapers
Bibliographies	Charts
Courses of study	Clippings
Curriculum guides	Art work
Units of work	Models
Pictures	Science objects
Files of community resources	Films
File of community citizens with special contributions	Film strips
Audio-visual equipment	Recordings

Audio-visual criteria

Audio-visual types of material are more effective when:

1. The title indicates the content clearly.
2. The pacing, vocabulary and length are appropriate for the grade intended.
3. Film is primarily a visual rather than a verbal experience.
4. The material is authentic and accurate.
5. The music and sound effects used with a film really relates to the educational purpose of the film.
6. The producer organizes so that the material is presented economically.
7. The visual treatment exploits all the techniques necessary to show the main idea and yet avoids distraction.
8. The material contains a date of production, the producer, and a sponsor.
9. The material avoids stereotyped characters and situations.
10. The medium is suited to the most effective presentation of the content.
11. Subject matter is presented in language appropriate to the area of experience for which it is designed.
12. A teaching guide and other related materials are provided when needed.
13. Audio-visual materials are enriched with related materials such as study prints and kits whenever possible.
14. Care is taken in the material to avoid factors that bring about early obsolescence.
15. Educators and producers collaborate in the production of it.
16. Color is used if it really makes a contribution to the subject.

Organizing a materials service center

An economical and successful instructional materials center probably cannot be set up full blown. It has its most successful origin in the curriculum com-

The school library now undoubtedly needs to be housed separately where facilities are available. Where a school district is not large enough to separate these services then the selection of personnel and the functions assigned to such personnel may need to include them both. The continued separation of the school library from the instructional materials center seems advisable to the writer whenever this is feasible. The functions served by them are similar, but the kinds of skills that may be involved in their successful operation are sufficiently different to suggest that separate personnel operate them. At the same time, since the selection of materials for both the materials center and for the school library depend upon the general curriculum development program in the school, there ought to be the closest liaison between these two kinds of instructional services.

Selecting materials for the center

Before materials can be selected decisions are made about the curriculum itself. The concepts and generalizations to be developed and the experiences planned for children are stated. We need material to assure that there is adequate coverage of all areas of emphasis as stated in the sequence plan from kindergarten through the end of the elementary school. If the material is focused on the significant ideas and generalizations to be developed within the space of time they will increase learning. Also, the instructional materials can be selected to provide for more flexibility in the teaching-learning situation. Some considerations that may influence selection and production of materials are whether they insure the progression: (1) from simple to complex concepts that may be provided in the materials, (2) from concrete to abstract ideas, (3) from egocentric to more objective concepts, and (4) from inconsistent to consistent and more accurately detailed concepts.

The materials are usually better teaching instruments if they deal with one major generalization. If there are minor generalizations they are most effectively learned if they support the main one. A generalization that cuts across many of the basic human activities in order to tell the story is remembered better and used more. This presupposes that it is presented on the level of the intended audience. If emotional involvement can be secured the material is more effective. If the material is a film it should induce identification with the generalization being taught in some way. The emotional content of the materials should be directed toward social understandings, attitudes, and appreciations.

must be determined, but also the teacher can be involved productively on curriculum committees.

The person to head the materials program should be experienced in education and particularly in curriculum development in its detailed phases. He should also have a specialized knowledge in the field of instructional materials. Besides this his personal relationships with the many different people with whom he must work must be constructive. His role in the school system is by definition a supplemental one. He learns from others the needs they have in instruction; he converts these needs into the selection and production of materials, and then in turn he uses all the avenues at his disposal to secure the full utilization of these materials.

Because he has an important role in in-service teacher education, he must be able to understand the classroom instructional problems of teachers. Because his role in the school system is one of leadership he must also be freed as much as the school's finances allow by the provision of adequate clerical assistance. He will work, not only with teachers, but with principals, supervisors, curriculum consultants, and with the superintendent, if he is to secure the budget necessary to do the work and if the school personnel are to be really supportive of the program.

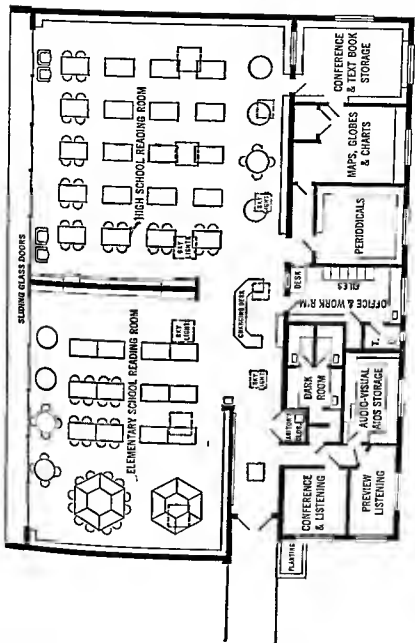
In many places a staff member with a particular interest in instructional materials, including audio-visual aids, may want to move into such a position. Beginning with some released time when the center is first starting, he may be encouraged to develop the instructional center as an important vocational goal. In some ways this is an ideal solution in that his familiarity with the school system and his knowledge of the personnel will make for his maximum usefulness in suggesting and finding materials. In addition to a materials specialist and clerical kinds of assistance, many districts provide teachers with released time to work in the instructional materials center producing, evaluating, and selecting materials and tying materials in with the courses of study or units of work used in the school system. It is the practice in some school systems to release a teacher for a semester to work intensively on the materials in a particular grade level or area of the curriculum. Teachers working under released time provisions under the leadership of the materials specialist can make real contributions to the center.

In addition to the central staff there should be in each elementary school building a building representative or building coordinator with responsibility for performing a liaison function between the building ma-

mittees. As these committees work on the development of curriculum patterns, guides, and resource units for the different grade levels, the materials that they need in carrying out their instructional program should be outlined. The employment of a materials specialist early in the development of a materials center is a wise move. By working with the curriculum committees, the central coordinating committee, individual teachers and the school librarian, he can begin the development of materials closely related to instructional needs. If a district cannot employ a materials specialist at first, the teachers who work on curriculum guides, units, and resource units, can begin the work on a materials center. However, it is much more difficult after the curriculum work has been done by a committee to try to go back and think through the instructional aids that would help the teacher in developing the concepts important in a unit of work. Perhaps one of the most important things with which to begin in starting a materials center is a place to work. Ordinarily this place should be reasonably accessible to the main flow of traffic so that teachers may find it convenient to use the room and its facilities. This room should be a good workroom where materials needed by teachers can be produced. Here too can be the beginnings of the professional library. Adequate storage facilities—files, cabinets, shelves—are important at the beginning. The audio-visual equipment is usually housed here for distribution to the different rooms. As soon as the school can afford it, a staff member should be released part time to perform the duties connected with the organization of the material and its distribution. As the use of the center increases, a specialist in charge of it should be given additional time for in-service education, the instruction of teachers in the use of the aids, and for membership in the various curriculum committees. As early as possible in the building planning of a district, provisions should be made for a main center.

Staffing the center

The coordinator of the instructional materials center sits in on curriculum development committees and on the central curriculum coordinating committee. He also works very closely with the personnel in charge of general curriculum development and in-service teacher education. His relationship to the school librarian is a close one so that the materials that are selected by both the instructional materials center and librarian supplement each other in their usefulness in helping children. The place where the selection of materials really begins is in the teacher's classroom. The teacher's needs



materials center and the main center. In addition, the building coordinator handles materials and helps teachers use them. This responsibility should not be delegated to some already overworked teacher; there should be a time allowance made in the daily schedule of the building representative. He can set up an efficient scheduling system for materials and equipment and assume responsibility for some maintenance. He can give individual help to teachers regarding the selection of materials and methods of instruction, maintain a materials bulletin board, and display new materials.

Housing the center

Thinking about housing the main instructional materials center, consideration begins with the kinds of materials to be housed and distributed. The more fully developed centers have a place for audio-visual equipment storage and repair. Provided also in this part of the center is provision for previewing materials. In addition, the center usually contains workshops where teachers and others may manufacture materials for all areas of the curriculum. A room for listening and also a photography laboratory are needed.

There should also be a place in the center for conferences, curriculum meetings, and larger conferences involving discussion of materials and curriculum development problems of other kinds.

The plan for materials center of the P. K. Yonge Laboratory School at the University of Florida* is designed to serve nine hundred pupils. The floor plan for the center is shown.

An exceptionally elaborate plan for a center to serve a large school district is that of Torrance, California, illustrated in the American School Board Journal.*

BIBLIOGRAPHY

MATERIALS ON DEVELOPING CONCEPTS AND GENERALIZATIONS

- Brownell, William, and Gordon Hendrickson, "How Children Learn Information, Concepts, and Generalizations," *Learning and Instruction*, Pt. 1. National Society for the Study of Education, 49th Yearbook, 1950, pp. 920-28.
- Building Curriculum in Social Studies for the Public Schools of California*. Sacramento, Calif.: State Department of Education, 1957.

* See Bibliography.

Department of Audio-visual Instruction, National Education Association, 1954.

Witt, P. W. F., "Your School Needs a Materials Specialist," *Teachers College Record*, 58 (May, 1957), 425-30.

MATERIALS ON HOUSING THE CENTER

Ahrens, M. R., "Center for Materials," *Childhood Education*, 33 (November, 1956), 117-19.

Artuso and Burbage, *loc. cit.*

Bernardis, A. de, "Instructional Materials Centers—Their Plan and Function," *American School and University* (1956), 93-104.

Cross, A. J. Foy, and Irene F. Cypher, "Provisions of Audio-visual Materials, Equipment, and Building Facilities," *The School Administrator and His Audio-visual Program*, 1954.

Mitchell, R. S., and G. O. Erickson, "Workroom for Teachers Increased Classroom Use of Audio-visual Aids," *Nation's Schools*, 53 (June, 1953), 92.

FOOTNOTES

1. Johnson, *Psychology of Thought and Judgment* (New York: Harper and Brothers, 1955), pp. 231-41.
2. Van Engen, Henry, "The Formation of Concepts," *21st Yearbook, National Council of Teachers of Mathematics* (Washington: 1953), pp. 69-98.
3. Taba, Hilda, Elizabeth Hall, and John T. Robinson, *Elementary Curriculum in Intergroup Relations* (Washington, D. C.: American Council on Education, 1950), pp. 37-45.
4. Wesley, E. B., and Mary A. Adams, *Teaching Social Studies in the Elementary School* (Boston: D. C. Heath and Company, 1952), pp. 293.
5. Hanna, Lavone, "Suggested Concepts for Scope Definitions with Illustrative Generalizations" (preliminary, unpublished paper, May, 1960).
6. Ahrens, M. R., "Center for Materials," *Childhood Education*, XXX, No. 3 (November, 1956), 117-19.
7. Artuso, Alfred A., and Gertrude E. Burbage, "Prescription for a Stronger Instructional Program," *American School Board Journal*, 133, No. 4 (October, 1957), 30-31.

- Cronbach, Les J., *Educational Psychology*. New York: Harcourt, Brace and Company, Inc., pp. 276-309.
- Hanna, Lavone A., Gladys Potter, and Neva Hagaman, *Unit Teaching in the Elementary School*, Chap. 13. New York: Rinehart & Company, Inc., 1958.
- Johnson, Donald, *Psychology of Thought and Judgment*. New York: Harper and Brothers, 1955, pp. 231-41.
- Spencer, Peter, and Marguerite Brydegaard, *Building Mathematical Concepts in the Elementary School*. New York: Henry Holt and Company, Inc., 1952.
- Van Engen, Henry, "The Formation of Concepts," *21st Yearbook*, National Council of Teachers of Mathematics, 1953, pp. 69-98.
- Vinacke, Edgar, "The Investigation of Concept Formation," *Psychological Bulletin*, January, 1951, 1-31.

MATERIALS ON THE SCHOOL LIBRARY AND MATERIALS SERVICE CENTER

- Artuso, Alfred A., and Gertrude E. Burbage, "Prescription for a Stronger Instructional Program," *American School Board Journal*, 135, No. 4 (October, 1957), 30-31.
- Bristow, W. H., and L. Simon, "Research Centers," *Review of Educational Research*, 26, 184-96.
- Brooks, Alice, "Role of Instructional Materials Centers in Schools and Colleges," *School Review*, LVI11 (October, 1949), 425-32.
- Cypher, I. F., "Materials Centers and School Libraries Don't Mix," *Library Journal*, 1956.
- Drag, Francis, *Curriculum Laboratories in the United States*. San Diego, California: 1947.
- Farrar, W. W., "Instructional Materials Center," *School Executive*, 73 (April, 1954), 54-57.
- Grambs, J. D., "Materials Laboratory in Teacher Education," *Journal of Teacher Education*, 1 (1950), 302-6.
- Shores, L., "Enter the Materials Center," *American Librarian Association Bulletin*, 49 (June, 1955), 285-88.
- University of Connecticut, *The Material Resources of Curriculum Laboratories*. Storrs, Conn.: University of Connecticut School of Education, Curriculum Center, 1951, p. 37.

MATERIALS ON STAFFING THE CENTER

- Denno, Raymond E., "Audio-visual Building Representative," *Audio-visual Administration*, Wm. C. Brown Co., 1951.
- Rendell, J. W., "Leadership Role of the Educational Materials Specialist," *Education Leadership*, 12 (April, 1955), 423-29.
- Schuller, Charles F., *The School Administrator and His Audio-visual Program*.

It enjoys being read to, and will bring Hans Christian Anderson up to date by sparking the anticipated climax with a Dragnet theme. It loves a teacher during play period, hates her when she takes a gun away, and loves her again when she smiles naturally."

In this group of children are some who are already free of the conflict over initiative, and there are others who have not won this far. The teacher represents different things to different children, but they all "learn" him as well as they can.

IDENTIFICATION WITH THE TEACHER

The basic source of motivation for young children lies in their identification with adults around them. Children absorb the characteristics of the teacher throughout the time they are in the classroom. His attitudes, his anxieties, his seeming omnipotence are all taken in by children. Many of the things children learn from the teacher are not consciously learned. What the teacher *is* educates children. As with any individual a large part of the teacher's functioning is of unconscious origin. He is not aware himself of many of the feelings, attitudes about things, and ways of relating to people that he is "teaching" to children. However skillfully he may think he is concealing his attitude toward individual children the teacher nevertheless conveys it to them. Children remember the teacher's emotional reaction to them and to others; it becomes a part of their conception of themselves and of their feeling about how others appraise them. In the long run this is undoubtedly more important in developmental history than the facts learned with that teacher.

Children identify with teachers and take on ways of behaving that may be contrary to the majority values in the culture. Children identify with an authoritarian teacher, particularly if the home situation also has an arbitrary climate. The fear and dependency which an authoritarian teacher can evoke lead some children to identification with this punishing authority. From warm, permissive but structuring kinds of teachers children take in their attitudes of tolerance for differences and more flexible human relationships.

The teacher's aspiration for individual children is felt by them; his expectancy of performance is unconsciously felt even when he has not verbalized it with children. The children also sense the meaning they have for the teacher. Teachers who feel at one level rivalrous with their pupils

12. TEACHER PERSONALITY AND CURRICULUM

THE THEORY on which the text is based includes the hypothesis that the most important influence in the school curriculum is that of the teacher himself. In his relationship to acquiring knowledge a child expresses directly or indirectly the quality of his relationship to other human beings, and of these relationships the teacher-pupil one is the most vital outside of the home itself. Although children come with the characteristics in common so charmingly described by Eaton¹ below, they also come in infinite variety; they relate to the teacher and use him as they can and as they need him. In an article called "What is a First Grade?" Eaton writes: "A first-grade class is a group of six-year-olds, none of which look, act, think, behave, talk, or grow in the same way. Its members are all victims of a magical age during which they pass from five-year-old babies to seven year-old children. It comes with assorted needs ranging from Kleenex to affection. It has stars in its eyes, and loose teeth in its mouth; questions on its mind, and Band Aids on its knees; forgiveness in its heart and peanut-butter sandwiches in its lunch. . . .

convey this to them; this often carries with it the unconscious feeling on the part of both teacher and pupils that they are all at a sibling level rather than in an adult-child relationship. Teachers who "need" the children and are in one sense dependent on them also deprive children of their needed feeling of growing separateness. Many of the control problems of teachers arise from the underlying nature of the felt relationship between teachers and pupils. Often the difficulties experienced by supervisors trying to help a teacher who has "poor discipline" results from failure to understand the real source of the teacher's problem.

VARIETY IN TEACHERS

The importance of identification in motivation and learning suggests that children should have contact with teachers, and other adults, who can serve different purposes for children. Certainly it would be helpful to children at the elementary level to have both men and women for teachers. A part of the developmental problem is clarifying one's identity as male or female. Another kind of variety is with different temperaments. Because of the child's own individuality, he needs to find different kinds of adults to use. The outgoing, the reflective, the particularly warm and accepting, the matter-of-fact, the young, the middle-aged, or the older teacher, all can serve different purposes for different children and yet each has value to all children in understanding the variety of human beings and human reaction. The team teaching experiments now under way have frequently involved this idea but rarely formulated an adequate set of hypotheses to guide the selection of participating teachers or to evaluate their impact.

THE TEACHER'S SELF-KNOWLEDGE

The significance of self-knowledge as an outcome of children's experience in and out of school has been stressed in Chapters 2 and 3. However, the teacher's self-knowledge is, in many ways, a prior condition of children's growth in understanding themselves. The teacher must be able to understand the dynamics of children's behavior in the living, moving classroom situation. Often this involves the teacher himself. He needs to be able to understand the meaning the child's behavior has to the child himself. If the teacher does not understand himself, why he feels the way he does, why

the home, the teacher is used by children to find out how to act toward other adults. If the teacher is firm but kind, alert but also forgiving, rational and consistent, children learn that authority consists of expectations that are nonpunitive and reasonable. Within this climate of mild frustration but acceptance learning takes place most readily. If the teacher is arbitrary and sets rules for the children, instead of with them, and if he is at any level—conscious or unconscious—basically punitive, then children will identify with this picture of how to act when they are in a position of authority. There will be continued impoverishment of thought arising from the inability to make the finer and finer discriminations that are necessary in modern living. His tendency to make black and white judgments is evidence of the impoverishment of his thinking. Help for this teacher in working through the meaning of his behavior will be even more productive of good teaching than will comparable time spent in helping him with a method of introducing a spelling lesson, although both may be needed.

The teacher has to contend with his own hostility which may be unconscious or conscious. It may be directed toward certain children, or certain types of behavior. Anger may be a normal reaction to some of the things that happen in a classroom; honest anger may teach a child something about human relationships that he cannot learn any other way. However, the teacher has to know about his own anger; the anger he feels may in some instances be a projection or displacement from other situations. He must, in a sense, meter his anger, knowing he is angry, knowing why, and handling it in such a way that children can use it but not be flooded or disorganized by it.

Hostility is far more likely to be unconscious in origin. It may pervade a wide area of an individual's relationships, being applied without regard to a rational basis for it in the immediate situation. The teacher may face this in himself; he always faces it with children in varying degrees. He can be helped to understand it in himself and in children. Teachers who have not worked through their own hostility are more likely to react irrationally to the provocative hostility which children may carry into the classroom from home, from sibling relationships, from the playground. He needs to meter his own hostility and know its sources at the same time that he helps children to cope with their feelings in similar ways. Maturity in the teacher requires that he be able to identify behavior as hostile, that

cial success—a new car, a residence in the right neighborhood—also sometimes impairs the teacher's sense of being at peace with himself and his society. The White House Conference report expresses the idea that "Our culture, with its rapidly changing technology and its diversity of value standards, leaves much for the individual to work out for himself. In the American dream, however, and the Judaeo-Christian tradition on which it is based there are values and ideals aplenty."² The individual teacher can find among them a satisfactory set of goals, the pursuit of which are in harmony with the kind of adult integrity the teacher needs.

The teacher needs to have available well-trained psychological or psychiatric consultants who can help him constantly increase his knowledge of himself and the human beings with whom he works, children and adults alike. It would be most desirable if this could be provided within the framework of the public school staffing. The confidential and financial difficulties that this proposal raises are apparent. Nevertheless, as public and school personnel's sophistication increases in the area of self-understanding, we may find acceptable solutions to both problems. We need to increase the teacher's coping abilities to replace the defense mechanisms. In a research project at the Institute of Human Development³ Haan and Kroeber have characterized a coping mechanism as involving choice, flexibility, and purposive behavior. It is more oriented to the reality requirements of the present situation, involves secondary process thinking with conscious and preconscious elements. It allows forms of impulse satisfaction in an open, ordered, and tempered way. The results of this research completed in 1961 may have real significance for teacher education. In connection with the general problem of sensitivity in direct relationships and the apprehension of the other's often unexpressed feelings or ideas, the defense mechanism that operates in this area is that of projection. Here the individual imputes to others feelings he has himself. The normal and positive corollary of this is empathy, wherein the individual puts himself in the other fellow's shoes. The educational program in relation to the coping mechanisms is still to be worked out. The benefit to children of growing insight in teachers can be incalculable.

TEACHER AND AUTHORITY

Teachers play a peculiarly important role as an authority model for children. As the first really significant figure with whom the child has contact outside

upper socio-economic level community. The serving status of the teacher is felt by children and makes the teacher less usable as a figure of identification. His problems of exciting children to learning and his problems of control and motivation will be correspondingly more difficult. His feelings about himself will also differ. Those who are responsible for the placement of teachers need to understand the particular hazards of different kinds of communities. The teacher training process also should help the teacher candidate think through his own feelings about different social classes and different kinds of people.

The hazard that arises from the teacher's position as a surrogate is common everywhere. The teacher acts in a surrogate role more for some children than for others. The needs of the child and the teacher's ability to feel in a parent-surrogate role about a particular child makes a difference. Teachers whose needs for playing the role are great may get themselves into a position of unconsciously trying to outdo the parent in good works. Some teachers attempt to take over the child or a whole class and play a parental role that invades the parents' rights. For some children this may be entirely justified; the parents may be actually or figuratively absent in the child's life. For other children it results in confusion for both parents and children and accentuates the parents' problem in letting the child have more autonomy, yet keeping him under control in those matters where his lack of maturity would make autonomous action dangerous. The teacher who overplays this role also may find that his hostility, at the unconscious level, toward the parents will make it impossible to work out a cooperative approach to the child's problems.

The teacher's morale is perhaps no more a problem to him than to factory workers, lawyers, or engineers. However, there are many factors in his morale situation that do not occur in other jobs or professions. He deals with other human beings on whose personality development his success depends. Many of the factors that affect this development are beyond his ability to control. The teaching-learning situation is also very complex and he must often forego the satisfaction of seeing immediate results from his efforts. Lacking the support of knowing the results from his work, the teacher depends more upon other things for evidence of his success. Although he plans for more long-term effects of his work, he may have to depend for job satisfaction on short-term evidence—a lesson well done, friendly acceptance by colleagues, parent approval, or good rapport with children. All of these are important and rewarding. The teacher may feel,

he understand and handle his own reaction to it, and finally, that he help the child understand and handle his own behavior.

The teacher does not differ from people generally in regard to the incidence of behavior of unconscious and irrational origins. Because of his position in relation to the immature child, however, the teacher's psychological make-up is more crucial. His anxiety is easily communicated to children and may lessen their own feeling of trust. The teacher who is dependent on children or whose inner fears are projected onto children may not be able to grant them autonomy.

The teacher is thus the key to the child's attitudinal and motivational learning in the school. As we are increasingly successful in developing curriculum that fosters individuality in children, the teacher's versatility in the area of resources and learning experiences becomes a further key to the child's introduction to a novelly emerging society.

EMOTIONAL HAZARDS OF TEACHING

Every occupation has its particular hazards. *Hazards*, as a term used here, refers to the situations that occur in connection with the work of the teacher that threaten either his own development or his success and tenure in his position. The teacher works with the immature. Unless he can balance his life with community activities at the adult level, he may lose his perspective on the immaturity of his children. The kindergarten teacher who seems to act like a kindergarten age child or the upper grade teacher who acquires the boisterous camaraderie of the twelve and thirteen year old, have been fairly common. Teachers who use children as their principal kind of companionship are more susceptible to losing adult perspective. The teacher may then lose some of his ability to help children. They are entitled to an adult teacher who acts like one. They need a figure for identification that is representative of mature adults in the community.

The hazard that arises from the public image of the teacher varies from one sector of a community to another. In some parts of an urban community the teacher image is a constructive one; he is seen by the adult community as a man of education, of helpful intent, of a somewhat better status than others. In another part of the same community he may be seen as being essentially in a serving role. The community may value education less because its economic welfare level makes it independent to some extent of the school as an instrument of mobility. This would be most likely in an

however, that he lacks the tangible evidence of achievement that a doctor, lawyer, or engineer may get from a task. Or he may be well aware himself that his role is vital but have the uneasy feeling that others do not see how vital it is.

The teacher's morale is dependent on three broad conditions, of course. The first of these is general community attitude toward teachers, the second is his own maturity, his own solution to the problem of integrity, and the third is made up of the school conditions that affect his success, acceptance, and sense of well-being.

THE TEACHER AND CONTROL

The teacher's problem of learning to control children or help them to control themselves is a complex one. Much of his success and morale depend on a solution to the problem. Yet the factors that would make it possible for him to succeed may escape his most ardent analysis. The facets of control are three: (1) the personality of the teacher and its usability and impact for children; the teacher's resolution of, or failure to resolve, his own developmental problems may enter in, but it is not known whether they do or not; (2) the personalities of the children and their interaction; obviously some parents send to school children who are not emotionally prepared for the experience; extremely permissive homes may result in children who feel they need not learn the role the school wants them to play; and (3) the situation, what is expected to be learned, the classroom itself, and other factors. We probably know more about how to set up experiences that are interesting and tend to diminish the problem of control. We know too little of the other complex factors that are also involved.

THE TEACHER IN THE INSTITUTION

What the teacher is and feels is in large measure the curriculum the child experiences. The curriculum worker is therefore concerned with all these factors that influence the teacher's impact on children.

Within the school as an institution other kinds of psychological hazards often develop. Teachers who move directly from the dependent student relationship in a college to the position of teacher in a school system may find themselves trading dependency on the school or professor

for dependency on the principal, supervisor, or superintendent. Whether he does develop a new dependency in the new institution will be related to his particular needs but also to the impact of the institutional structure on the people who work in it. The growth of bureaucracy in the school as an institution tends to make teachers dependent on individuals higher in the administrative hierarchy. This impinges on their feelings about themselves as professional persons who can make decisions and lessens their effectiveness in their work with children. There is a twofold answer to this question: (1) teacher candidates, and others, perhaps, need help in working through the problems of dependency which are partly consequent on the longer period of higher education required; this should be part of the teacher-training process; and (2) the bureaucracy that is developing in school administration needs to be broken down, creating smaller units within the system that act autonomously, decentralization of the supervisory functions locating them in individual schools, increasing the autonomy of the individual school. These and others require attention as solutions to the problems posed by dependency and increasing professionalization.

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change, or curriculum development, therefore becomes a kind of re-education of the teacher. The swift, *novelly* developing societies of this century create constant need for reassessment of goals and of procedures, for the absorption of new knowledge about children and new knowledge about the world in which they live, for changes in attitudes and skills. The teacher's re-education, if this is an acceptable term, has to affect more than his knowledge; it will have to involve his attitudes and values as well.

If the focus of organization is to be teacher growth, how can it be accomplished? As noted in the chapter devoted to the basic theory of personality, the maturity of the individual is an essential element in his ability to change, to function positively with children, and to feel secure in the processes of development. Any plans for organization therefore would take this into account; they would make it possible for the teacher to preserve and develop maturity. If the shadow of the "inspector" and the "rater" falls across the process of growing and changing things, we shall have less mature teachers and less development.

In a free society that aims to preserve itself, teachers particularly have to share in that freedom. We expect that everyone in a free society is enabled to participate widely, to share decisions, to question policy and action, to demand that the test of scientific thinking be applied to problems and to respect others' rights to have the same freedoms and protections. The personality growth and effectiveness of the teacher is dependent on the existence of a climate of freedom and responsibility. The school as an institution has to reflect this. If it does not then we will have freed neither teachers nor children who are prepared for a free society. The growth of bureaucracy in some ways threatens this kind of freedom. If teachers look too much to what the school authority thinks and feels, or if they are trapped by bureaucratic rules, their own maturity may be impaired.

TASKS IN CURRICULUM DEVELOPMENT

The problems that concern the curriculum worker center largely on the learning situation in the classroom. The preparation and selection of materials, the development of teacher knowledge, skills, values, and human relationships focus on the learning situation in the teacher's classroom. There are, of course, a number of problems that become the function of the curriculum director in cooperation with *representatives of the basic working groups in the individual schools*. At the district level these prob-

13. ORGANIZATION FOR CURRICULUM DEVELOPMENT

THE PRIMARY question about organization is its purpose. It sometimes appears that organization is its own excuse for being. Parkinson¹ documented this humorously some time ago. In curriculum development a great deal of time and morale can be wasted with irrelevant types of organization if the purpose is not clear. It is worthwhile noting also that an organization that may be appropriate for one generation of teachers may be inappropriate for a more professionally developed generation.

No longer does anyone quarrel with the general idea that the teacher *is* the curriculum. What he knows, how he relates to children, the values he lives by, the skills he possesses, the life style that characterizes him, all these impinge on the children's experiences in the classroom. He follows a general guide which serves to provide a degree of commonality between schools, between teachers, or between grades, but the curriculum that is effective is principally the impact of the teacher and the children in the room. The teacher cannot teach what he is not. Curriculum

to remove themselves from the authority role and to resist those whose personal needs lead them to try to thrust status figures back into an authority role. Teachers who have been accustomed to sitting and listening at an annual institute or to an administrator find it difficult to shift gears. Nor do they have the skills to work effectively in the new setting. They tend to resent the expectation for participation in curriculum work. The energy demands of the new situation are great because the participants have still to learn how to work together in the many different ways that meet the purposes of different kinds of groups.

Yet it is apparent from research and experience that when individuals learn to work in groups they develop a more professional attitude toward their work. They live by their decisions and they grow in the methods that are also essential for the pupils to learn in a free society. Maier² in comparing group decision methods with others maintains that the group method allows control through leadership, accomplishes group discipline through social pressure, reconciles conflicting attitudes, allows the group to crystallize on the solution it thinks will solve a problem, lets facts and feelings operate openly, pools resources of the group, allows for cooperative problem solving, permits participation on the part of each person, and promotes respect for other people.

lems may include (1) curriculum articulation between school units, elementary school to junior high school, for example; (2) a broadly similar core of experience for all schools except those involved in deliberate, experimental variance; (3) a curriculum materials service center; (4) a broadly similar sequential pattern except for schools involved in deliberate, experimental variance; (5) the actual preparation of materials needed by various schools; (6) policy type of participation by laymen in the form of a lay advisory committee for the district; (7) re-education of central office personnel. It should be borne in mind that we do not need so much homogeneity of approach to curriculum as many central office personnel feel most comfortable about. The essence of different approaches, of course, is deliberate, experimental variance. Of this we have never had enough. A contrary policy would have to be based on a notion that we already know all that we need to know about the complicated process of learning and that we are already practicing it. Obviously neither is true.

CURRICULUM DEVELOPMENT THROUGH TEACHER RE-EDUCATION

Contributions of group dynamics

Many writers and experimenters have pointed out the relevance of the study of group dynamics to a free society. The complications of rapid change, urbanization, and population expansion increased the anonymity of the individual and deprived him of significant participation in primary groups. Yet it is obvious that a free society can survive only when there is involvement and participation of individuals in the decisions made by the society. From the study of the dynamics of people working in groups it is apparent that many things interfere with their work, particularly if the object of the group implies changes in what individuals are to do subsequently. In many instances groups function poorly because individuals do not have the skills to do the job for which the group is organized. Frequently individuals cannot work with others because of their own feelings about themselves. For instance, they become hopelessly identified with their own point of view and cannot surrender it without feeling defeated and professionally insecure. They tend to carry into group work some of the ways of relating to people that arise from their own unresolved sibling problems within the family. Some cannot work in an equalitarian fashion in a group but look for an authority to whom they can attach themselves. Authority figures also have to learn in working with groups

group process that it was a "pooling of ignorance." The same short-sighted procedure applied to setting up parent committees led to recommendations and policies that were untenable by any professional standards. Parent committees on report cards labored and presented recommendations that reflected the inadequacy of the group to cope with the problem it had been given.

The group is also a bully on occasion. This can be especially true if the field is the complicated one of education and the experimental data on which to rest a decision is not available. The group can make demands for conformity that are as intolerable as those made by an authority in the administrative hierarchy. A group can develop the feeling that "this is the way things are done here" and pressure individuals to live by this expectation. To escape from this pressure the individual needs rather sophisticated skills which he well may not possess. Lacking these, his alternatives may then be to try to discredit or disorganize the group, or worse still, conform to it.

Groups are frequently asked to perform tasks for which policies are already developed and that an individual can perform more efficiently. Although this may be done in the name of democratic administration, such misuse of groups weakens real democratic processes.

Despite the misuses of group processes, it is plain that the vitality of a free society depends on growth of individuals in their ability to participate in such groups and upon their willingness to use this avenue to decision. The professionalization of the teacher that grows out of his sense of being able to make choices based on the experimental data of his profession also depends in part on his participation in such groups. The problem is to make the groups effective in their functioning. This will involve the re-education of the teacher as a group member and leader as he works on the various curriculum development problems that arise from his situation.

Training-groups for teachers?

Developing teachers' insights and skills in cooperative work may be done in a number of ways and situations. In the individual school the faculty can make progress in their ability to work in groups if there is trained leadership. In the course of working together on curriculum problems many opportunities arise for deepening insight and improving skills. This supposes that the group is working with leadership that can help. There is

principal and with a curriculum worker who belongs to the school. Studies of the needs of children, the characteristics of the neighborhood, and the family patterns are possible beginning points for the staff.

A teacher is almost continuously engaged in curriculum activities which may become the focus for the group or part of it. Such activities of the individual teacher or the school staff may include:

1. Gathering sociometric data on a class and making changes in procedures and content that help students develop acceptance of others, needed social skills, acceptance of self.
2. A grade level meeting of a few teachers to discuss the problems the children in this grade are now involved in resolving.
3. Discussion of how to help children learn to make friends.
4. Curriculum committee work involving trying to use personality development information in building a unit, a series of experiences.
5. Setting up a trial of individualized reading in the second grade.
6. Using the Cuisenaire rods to teach the concept of exponents.
7. Selecting experience (content and method) for some individual or group concerned with similar problems, e.g., individuals lacking social skills, needing the security of a sense of order, and so forth.
8. Discussing how an individual child can be helped to achieve a greater feeling of independence.
9. Individual teacher-supervisor-principal conference on a child or on a class of children.
10. Information-getting conference with parents.
11. Program-setting conference with parents.
12. Teacher-pupil evaluation discussion.
13. Hit-and-run evaluation with a pupil—brief contact.
14. Faculty discussion of stages of personality development.

These are curriculum activities that may become expanded into school-wide or district concerns. As the staff meets problems for which it does not have resources it should define these needs carefully and bring in consultant help from the central staff or from other sources. The individual

terms of a product like a guide, for example, but better in terms of teacher growth, teacher professionalization, teacher independence, and a balanced total life for teachers. Often enough schools get into a thoughtless rut of appointing committee after committee without stopping to do the hard job of deciding what is really the better way to accomplish the complicated ends they have in mind.

The individual teacher has a role to play, and it may often be a more creative one than a group can play.

INDIVIDUAL SCHOOL CURRICULUM

The basic, planning, study group is the faculty of the individual school. There are a number of reasons why this must be so. First the school staff has the job described in Chapter 4, "How Curriculum Varies with the Neighborhood." The unique aspects of the curriculum that arise from the variations in socialization patterns have to be planned by those who work daily with children. Second, the individual school staff is the responsible group; they are seen by the parents as most directly involved in their children's learning. Third, the professionalization of teaching demands a high degree of individual competence which in turn can survive only if granted autonomy. Fourth, a focus is needed for the curriculum experimentation and development.

There is a developing idea that money for curriculum should be spent as close to the classroom as possible. The activities of a centralized curriculum staff, however sound in principle, often fail to bring curriculum improvement. The teacher in the individual school may, and often does, ignore important aspects of the curriculum improvement program. Often enough when the leadership is dissatisfied with the curriculum program it tends to increase the centralized staff. It is true that supervisors of curriculum consultants from a central staff have almost always been too few to be most effective. Their efforts are diffused among a load of from thirty to one hundred classrooms. The demands made upon these consultants have been very great. It becomes more apparent that the curriculum consultant staff must be decentralized and attached to individual schools or to a pair of schools in the same type of neighborhood. This probably means more curriculum consultants than we have now. The basic curriculum planning unit then becomes the staff of the individual elementary school with its

school staff also feeds into a central coordinating committee or council information on its activities, its special needs for material, its perceptions of some of the problems that will need to be dealt with on a higher coordinating level, for example, articulation, common core, district philosophy. It is important that the basic curriculum planning unit, the individual school staff, be seen as the focus for the expenditure of funds and the channeling of consultant resources.

Individual school organization

Organization should generally be minimum. If the staff can act as a committee of the whole with occasional subcommittees to perform delegated tasks, this may be a good solution. If the staff is too large or its problems too varied, it may need a steering committee on which the curriculum consultant and principal serve with teachers. Organization should be fluid, responding to the problems on which the staff is working. The grade level organization will meet some needs very well; at other times subject curriculum committees or production committees may serve other needs.

Relation to the curriculum council

The curriculum council is essentially a coordinating mechanism. Its membership should enable it to perform the job of coordinating the work of the basic curriculum planning units and also to furnish leadership and new ideas. The curriculum director for the district ought to be the chairman of the coordinating council. Ordinarily representation on the council should include teachers, central office curriculum staff, principals, and superintendent. Laymen should be included for specific jobs—usually policy determination, community analysis, or use of specialized skills.

The coordinating council sets up the special committees that perform tasks that can be done for the whole district or a large part of it. This is the source of committees on production, editing, selecting materials, articulation, district philosophy, and others of an over-all character. The curriculum director should guard against the tendency to assign too much authority and scope to the work of the coordinating council. It should remain the creature of the basic curriculum planning units. It is true that central office staff—the curriculum director and area specialists in such areas as guidance, physical education, art, and music—feed ideas and research findings into the coordinating council. However, the central office

into classroom practice is obviously the tool of the professional. Occasionally a beginning is made by stating the objectives for the school system. These may become a series of pious statements or they may be directly related to curriculum in the school. There is often too big a gap between objectives and classroom practice for the teacher to make effective use of this procedure, but if we follow through from general objectives to behavioral ones and finally to bundling them for curriculum experiences perhaps this approach can be fruitful also.

When we watch a teacher in a classroom handle a problem of discipline, or a problem of selecting content to be learned on a particular day, we are seeing his philosophy. If, as the curriculum program progresses, the teacher, the principal, and the curriculum consultant can re-examine what they do and derive from it some further ideas as to their working philosophy, we will have made substantial improvement.

Making a start

Where a group will start will depend on the problems of that particular group and of that particular school. It may also depend upon the insights of the curriculum director who gets a chance to understand the over-all problems of a district. One of the principles involved is that beginnings need to be generally unstructured and that they need to fit the school or the group doing the work. Some groups may find that it gives them confidence to begin with the study of the existing curriculum—a study of what is going on. They will need to devise techniques for gathering such data. In one study, grade level meetings were used to find out what was going on in the different subject matter fields. For example, the questions they asked about the social studies curriculum were these:

1. What content area or areas are you covering this year in social studies?
2. What materials for the social studies are furnished by the district?
3. Do you like the county guide for the social studies?
4. What are some of the teaching techniques that you use?
5. How do you go about diagnosing what children already know in the social studies?
6. Do you use the community for your social studies?

Regionalization

In larger city systems, where hureaucratic rules sometimes tend to interfere with the autonomy of the individual school and to starve leadership except in the upper echelons, it would probably be better if small sections made up of similar schools could be organized. These regions or subsections of the city usually include schools with similar kinds of curriculum problems. Curriculum consultants, or supervisors, ought to "belong" to these regions. The staff of the region's schools needs to be given the responsibility for its program. There has often been much concern that autonomy of leadership within the system infringes on the "sole responsibility" borne by the superintendent. In reality every individual in the schools has responsibility; he learns this when he fails to carry the responsibility and is fired. The legal responsibility of the superintendent is also a reality. It is part of the hazard, however, of the superintendency that if he is to build leadership he also has to venture faith in his teaching staff. It requires superior leadership in the superintendent to stimulate burgeoning, creative leadership everywhere in the school staff. It requires maturity on the part of central staff to derive its satisfactions from such restive, autonomous activity on the part of others.

How to begin

There may be a "best" place to begin curriculum work, but it probably varies with each school situation. No one actually begins a curriculum from scratch. There is a strong current of practice and there are fairly definite expectations on the part of the public as to the curriculum experiences their children will have. Generally we are in a stream which we dam, divert, diminish, or augment, but we rarely get to start anew. If we could build a sound theoretical model for a school based on all the relevant research in the social sciences, including education, it might help us make a breakthrough into a better curriculum. This much-to-be-desired project would be expensive and technically very difficult.

Most curriculum work begins with the problems that teachers have with a classroom of children. A number of projects that started with building a philosophy of education seem, in retrospect, to have little effect on what went on in the classroom. Relative failure of this method may be due, however, to the way of going about it; philosophy constantly tied back

7. Do you use the environment around your school as a social studies resource?

8. What are the goals of social studies that you are striving for? How do you defend these goals?

9. Where do you feel you need the most help?

10. How do you provide for differences in academic skills in the social studies?

In this particular beginning, the social studies were chosen as the area for a start. By discussing these questions in the grade level meetings, everyone was able to hear what other teachers were doing and the coordinator gradually built up a picture of what was being done school-wide in the social studies program and of the needs that teachers felt they had.

In another kind of beginning a meeting of kindergarten teachers was held in which these were the kinds of questions with which the group was concerned:

1. What are the characteristics of children from various neighborhoods of the district as you observe them in the kindergarten?

2. What are some typical units of work which you use with your children?

3. What sorts of understandings, attitudes, and skills are you trying to help your children to learn?

4. How do you use community resources in planning and carrying out learning experiences for kindergarteners?

5. What sorts of informal records do you keep for diagnostic purposes and for recording child development during the year?

6. Could you say something about your observation about homogeneity or heterogeneity of your children when you get them at the beginning of the year? Things like personality development, social skills, freedom to be curious to learn, acquaintance with books and stories.

7. What sorts of procedures do you follow to determine reading readiness? What do you look for? How do you record what you observe?

8. What help do you need?

Certainly the group working with such data needs to know where to go with it. Out of their study and discussion focal concerns will emerge on which the group can work with the help of the curriculum consultant and other personnel fitting into the needs of the group.

The outside consultant

Ferneau⁴ identified three types of consultants, the "expert," the "resource person" and the "process person." He found no difference as to the success of the consultations in which the three types were involved. The range of his evaluative techniques used to measure success was necessarily limited. In the curriculum development field all three types have utilization. However, effectiveness of consultation depends on utilization by the group. The group needs to predetermine the kinds of help it needs, point the problem as sharply as it can, and secure assistance on this problem. The expert may tend to weaken the group unless its own purposes are firmly established.

This is not to say that the independent expert has no role to play. If he makes the bases of his proposals clear in terms of theory and research involved he may perform a very useful piece of work in opening issues to which the staff has been blind. However, his role should be clear and he should not be allowed to weaken the processes already under way among the staff.

Teachers' problems

A place to begin may be with teachers' questions and problems as they come directly out of the classroom and the playground. Sometimes these problems may be found by written questionnaires, more often they will come out of classroom observations, discussion groups, records that the teachers keep of the activities in their classrooms, grade level meetings, and individual conferences. When the beginning is concerned with teachers' problems, the questions tend to be fairly specific, for example:

1. What should go on in a parent-teacher conference?
2. What kind of information should I be collecting for the parent-teacher conference?
3. How can I handle parents from different backgrounds?
4. What can be done for the gifted children in my class of thirty-five students?
5. How can I get across the ideas in spatial relations?
6. What should go into a good anecdotal record?
7. How do I handle the boy who sits in the back of the room and dawdles most of the day?
8. Why aren't the children interested in the material with which we've been working?

Lead from strength?

In thinking about beginnings that start with teachers' questions and problems, it might be well to give consideration to working first with areas that are strong areas, some of the teachers' best areas. When we begin with the teachers' strong areas we do not have the usual defenses and fears to interfere with either the statement of problems or with the development of new skills. The teacher recognizes his strong points and is not afraid to question them and to build on them. He generally will lack the defensive fears that surround an area where he knows he needs assistance. From the concern with strong areas, one can build confidence and good relationships which then will make it easier to work in the areas where the staff feels most insecure.

curriculum director, and other personnel are able to get an over-all picture of the problems of curriculum making in the district. They are also in a better position to evaluate, initially perhaps, some of the impacts of the special conditions of the community. This they must communicate to the staff, the citizens, and the board. They may be disturbed by some of the factors pointed out by Dodson,⁵ the accentuated homogeneity, for example, of some of our new suburbs where the children are almost out of contact with other kinds of children from other kinds of backgrounds and are denied the opportunities for educational comparisons and experiences that would help them live more sensitively and fully in a varied society. The whole school system may be made up of almost new teachers, as in some suburbs. This is a curriculum problem as well as a personnel problem. The new pressures that are falling upon young people because of restrictions on college entrance and the meaning of these pressures for curriculum development, the tendency to force children into inappropriate courses, the danger that teachers under this kind of pressure will disregard the more personal needs of children—these are things that the over-all personnel can see and introduce into the general discussion of the problem of where to begin working on the curriculum. They can also see whether needs expressed by individuals are widespread enough to require a general curriculum project or should be handled in individual conference or in small groups.

Beginning with the needs of children

Generally, this is one of the most favorable places to begin but not invariably. There are schools and school districts where teachers have only vestiges of an idea of where or how to begin to study the needs of children, what to look for or how to look for it. Sometimes their awareness of the needs of their particular group of children must grow out of more extended discussions of what they are doing now in classrooms. Encouraging teachers in groups or singly to find out the out-of-school activities of children will help their appraisal of the children's total life. Using the diary approach that is discussed in Chapter 4 will also give valuable data to the teacher so that he can build experiences that are related to the things that concern children. This is true of open-ended questions, friendship patterns, and other sociometric devices to study social patterns in the classroom. The discussions that follow the use of such techniques for finding out the needs of children are valuable curriculum discussions. It is in the discussion, in the follow-up,

Lead from strength?

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Parent questionnaires

Inquiries to parents also bring some ideas on where one might begin. For example, a questionnaire was sent and returned by some 700 families in an elementary school district. They were asked among other things whether children who failed to meet minimum standards should be held back a year in the same grade. Seventy-eight per cent of those returning the questionnaires said that children who fail ought to be held back. When asked is there a child in your family whom you regard as exceptional or above average intellect, 44 per cent responded yes. More parents, 17 per cent, thought that art was not as important as any other subject. Almost as many, 16 per cent, thought that foreign languages were not important at all. Queried as to whether there was too much discipline, or the right amount, or not enough discipline, 50 per cent said there was not enough, and 23 per cent had no opinion, 25 per cent said there was the right amount. To this questionnaire, there were many responses that raised questions for the school staff as well as for the community. The community plainly needs to work through many educational issues with the help of the staff.

Central staff insights

There are other kinds of questions that would be raised by professional personnel such as school administrators, or the curriculum consultant, from a position in which they can survey the entire system. The administrators,

- O'Rourke, Mary A., and William Burton, *Workshops for Teachers*. New York: Appleton-Century-Crofts, Inc., 1957.
- Passow, A. Harry, "Organization and Procedures for Curriculum Improvement," *Review of Educational Research*, XXIV, No. 3 (June, 1954), 221-36.
- Sharpe, George, *Curriculum Development as Re-Education of the Teacher*. New York: Bureau of Publications, Teachers' College, Columbia University, 1951.
- Taba, Hilda, E. H. Brady, and J. Robinson, "Ways of Working," *Elementary Curriculum in Intergroup Relations*. Washington, D. C.: American Council on Education, 1950, pp. 213-39.
- Thelen, Herbert, *Dynamics of Groups at Work*. Chicago: University of Chicago Press, 1954.
- , "Group Dynamics in Curriculum Improvement," *Educational Leadership*, 11 (April, 1954), 413-17.

FOOTNOTES

1. Parkinson, C. Northcote, *Parkinson's Law* (Boston: Houghton Mifflin Company, 1957).
2. Maier, Norman, *Principles of Human Relations* (New York: John Wiley & Sons, Inc., 1953), p. 30.
3. Miles, Matthew B., and A. Harry Passow, "Training in the Skills Needed for In-Service Education Programs," *In-Service Education* (Chicago: National Society for the Study of Education, 56th Yearbook, 1957), pp. 341-42.
4. Ferneau, Elmer F., *Role Expectations in Consultations*. Unpublished dissertation, University of Chicago, Department of Education, 1954.
5. Dodson, D. W., "Factors Influencing Curriculum Development," *Review of Educational Research*, XXVII, No. 2 (June, 1957), 262-69.

in the research following up these studies of needs that teachers' growth in curriculum making is accelerated.

Professional responsibility

The kind of organization set up to get curriculum work done has its impact on the staff's conception of the role they are to play in curriculum development. Aware as everyone must be of the problems attendant on making the individual school the basic curriculum planning unit, it is also apparent that there is no other professional alternative. Either we grant autonomy and build the staff toward leadership or we surrender the prospects of professionalization of teaching.

BIBLIOGRAPHY

- Alexander, William M., "Organizing the Individual for Curriculum Improvement," *Teachers College Record*, III, No. 2 (February, 1951), 278-86.
- Baker, James F., *Elementary Evaluative Criteria*. Boston: Boston University, 1953.
- Beauchamp, George, "Appraising Contemporary Practices," Chap. 10, *Planning the Elementary School Curriculum*. Boston: Allyn and Bacon, Inc., 1956.
- Benne, K. O., and B. Muntyan, *Human Relations in Curriculum Change*, Part III. New York: The Dryden Press, Inc., 1951.
- Blau, Peter M., *Bureaucracy in Modern Society*. New York: Random House, Inc., 1956.
- Caswell, H., and A. F. Foshay, "Check List on General Characteristics of a Good Elementary School," *Education in the Elementary School*. New York: American Book Co., 1950, pp. 64-69.
- Corey, Stephen, *Action Research to Improve School Practices*. New York: Bureau of Publications, Teachers' College, Columbia University, 1953.
- Dodson, D. W., "Factors Influencing Curriculum Development," *Review of Educational Research* (June, 1957), 262-69.
- French, W., "Institutional Improvement is the Responsibility of the Individual School," *California Journal of Secondary Education*, 30 (March, 1955), 157-60.
- Halverson, Paul M., "Participation in Curriculum Development," *Review of Educational Research*, XXIV, No. 3 (June, 1954), 237-45.
- In-Service Education*. Chicago: National Society for the Study of Education, 56th Yearbook, 1957.
- Leadership for Improving Instruction*. Washington, D. C.: Association for Supervision and Curriculum Development, Yearbook, 1960.

What about the handicapped?

Why team teaching? Departmentalization? Four-teacher units?

School size

The theory on which the text is based implies that the relationships within the school are important to children's learning and that the size of the school should be kept small in order to permit these relationships to develop meaningfully. The importance of the family in the growth of motivation in children indicates further that the working relationships between teachers and parents should be close and constructive. It is theoretically best if the school can be kept small enough so that all children walk to school and that the school is seen by everyone as part of the neighborhood. Parents should be able to visit school easily, talk with teachers, visit classrooms, contribute their services to the school in various ways, and participate in building curriculum experiences where they have the ability to do so. There should be opportunities for all children to have contact with other adults besides their own parents. The utilization of schools by the community is increased if this relationship can be maintained. Although there is no research of adequate complexity on which to base a suggestion now, it can be hypothesized that no elementary school should be larger than four hundred pupils and that smaller schools may be highly desirable in some situations. Primary units of half this size may serve a neighborhood better.

Class size

No adequate research is available on the effect of class size on learning the broad range of goals set up for a modern school. The conditions that affect desirable class size are related to (1) the need for a close relationship between teacher and pupil, (2) the need for individual attention to pupil needs, (3) the need for working through in small groups some of the self-knowledge problems normal for the age, (4) the need for class size large enough to furnish a variety of possibilities for friendships within the group, (5) a class size large enough to provide variety of personality for group learning.

The goals of modern education are obviously complex, and, as Swearingen¹ points out, crowding cuts down parent-teacher contacts, eliminates creative contacts with children, and increases fatigue. What is needed is groups that are built—and tested—according to the purposes to be at-

14. SCHOOL ORGANIZATION, BUILDING, AND CURRICULUM

THE WAY A SCHOOL is organized and the way it is built is an expression of someone's ideas about how children learn and what they have to learn. The theory of curriculum development needs to be worked through to its implications for organization; then the best insights we can get about organizing and building ought to be carefully experimented with in the varying situations that schools in different neighborhoods offer. The problems with which this chapter is concerned include:

What kind of age grouping?

Why a nongraded school?

Why multiage grouping?

What are the merits of K-6, 7-9, 10-12 relative to alternate divisions?

Grouping by ability? What about the gifted? The retarded?

How large should the elementary school be?

What size of class is the most efficient in terms of the whole school goals?

The gifted groups

The research in New York³ on the effect of various arrangements made for the education of gifted children seem to indicate that there was no benefit from any of the arrangements. Bright children achieved regardless of whether they were in segregated classes, special schools, enriched curriculum classes, or just left in heterogeneous classes. Whether this will be the experience elsewhere no one knows. The curriculum for gifted children has been poorly worked out; it is not known whether a new kind of curriculum for gifted children would give the same result or not.

The consequences of ability segregation are theoretically harmful. The effect on the family of the individual who is classified as slow has never been measured for a large enough number for us to know. Individual families have been demoralized by it; their perception of themselves and their children is seriously downgraded; occasionally their identification with their children is impaired and tendencies to reject the child or to reject the school appear. It may be that by arbitrary segregation we are further impairing the motivation of some of our children. We ought to know what we are doing. The kind of "total" categorization that takes place is potentially harmful to children's identity. The variability of human abilities is such that categorization is always made on a narrow base; there is actually no such thing as a homogeneous group as both Keleher and McGeoch pointed out many years ago.

Segregation of the gifted deprives a classroom of that normal heterogeneity with which human beings have to live outside of school. The segregated gifted sometimes get no sense of having superior abilities; their experiences with others of the same academic brightness yields them no sense of identity as a person with capabilities that ought to be further developed.

In terms of the theory on which the text is based the gifted child should be left in the heterogeneous group and the class should be kept at a size—twenty-five or less, for example—where the individuality of each child can be nurtured, be he very dull or very bright.

tained. Evaluation of class size that is limited to factual learning as measured by normative tests is badly misleading to the public. If we are to evaluate the effect of class size let us evaluate the full range of goals for which we are responsible.

Multi-age grouping

The experimentation at Torrance, California and elsewhere indicates that success with multiage group has been attained. Typically, children in grades four-five-six are grouped together in one room. Multiage groups allow for the kind of learning with which chapter one and two were concerned. It gives children a chance to see how they have grown; it gives them a chance to develop compassion and the desire to help. It serves to provide a human, living situation within which there are contrasts children need in order to develop a sense of identity in themselves. Certainly the last word has not been spoken on multiage groups. They are reminiscent of the old one-teacher school which sometimes turned out to be so wonderful, and then again so very bad. We need to raise many questions about it. The anthropologist has pointed out the importance of *rites de passage* in the development of the individual. Does the multiage group also provide a sense of progress for the individual, a sense of growing up because one can now help someone else?

The nongraded school²

The nongraded school or the ungraded primary are basically ways of grouping. The practice of regarding the first three grades as a unit within which the child remains for three years and works with different groups according to his needs and abilities and the purposes of the groups is becoming fairly common. There is no failure during this period for any child in the sense of being held back in a grade. Failure there must be but it comes in specific, tolerable amounts and situations. The nongraded school serves to give children time to mature, time to even out some of the differences that exist because of background—bilingual, culturally deprived, pleasure oriented. The nongraded school gives a student time to grow up; it represents a kind of moratorium on specific demands for competence until there has been time for growth.

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The mentally retarded

The mentally retarded should be provided with special class opportunities part of the day, but they should be involved with normal children when they can participate successfully in the group activities. This argues for small

classes for the mentally retarded locked within the neighborhood school. Their curriculum should be uniquely theirs and not a watered-down version of the normal.

The handicapped

Some kinds of handicapped children obviously cannot be included within the neighborhood school. They may require varying periods of intense help. But when the cerebral palsied, the blind and partially blind, the deaf, and the epileptic can be brought to the point of even limited participation in some activities of normal children they should be included in the neighborhood school. This is certainly a technical decision but more and more schools are including the handicapped for their own benefit and for the benefit of normal children who need to develop compassion and helpfulness for the wide range of human suffering.

Departmentalization

The self-contained classroom is well established in the elementary school. The stability it provides for children and the opportunity it furnishes to teachers to understand and help children have supported this kind of organization. Recently there has been some tendency to move to departmentalization. The grounds on which this change is argued are not sound theoretically. They are largely subject matter arguments. It is argued that teachers can learn more about a single subject matter area—or two—and will teach it better. It is apparent that this does violence to what we know about the development of children; fractionating their day for subject matter purposes leaves many of their developmental problems untouched and makes subject matter learning alone the primary goal too soon.

A better arrangement is probably the four- or six-grade-unit type of arrangement that keeps the particular group of children as the focus of teaching. It has theoretical justification which is presented in the next section on curriculum and buildings. It serves to maintain a balanced curriculum.

The K-6, 7-9, 10-12 organization

It is doubtful that much evidence can be gathered to support a particular grade level type of school organization. More than 50 per cent of school systems are organized in this way, and the number is increasing. Whether

engineers, superintendents, educational consultants, clinical psychologists, psychiatrists, social psychologists, sociologists, all have their place in the planning process.

The task of involving a community is an arduous one that some school administrators and boards feel they would rather by-pass. The dangers in by-passing are several; (1) it opens the board and the administration to charges of planning too little or inadequately; (2) it probably increases waste through duplication of facilities by other community agencies; (3) it may well decrease the use of facilities by community groups; and (4) it may result in misunderstanding and opposition in the area of expansion of the school's functions.

Curriculum and buildings

The theory on which this text is based suggests a close relationship between curriculum and building. The needs of pupils that are to be served by arrangements of space are suggested in the theory chapter and in the succeeding chapters. Certainly flexibility in the building itself is almost the first essential. Educational theory and practice have changed, leaving us with buildings that might have been related to the theory being tried at the time they were built, but not to the new needs that have appeared in a changing world with a developing theory of curriculum development. Strevell and Burke point out that, "If ingenuity had been devoted toward developing flexible partitions, movable fixtures and adaptable features making possible easy alteration of the size, shape and other characteristics of a given space, school buildings might not have blocked school improvement to so great an extent."⁶

As we develop a more complex and adequate theory of learning, we shall be trying new physical arrangements and evaluating their effect in helping us achieve the goals set up. It would be helpful if the buildings we build would lead themselves not only to current theory but to experimentation with this and subsequent theory.

The needs of children

Most classrooms are now built and furnished to allow for small groups, individual study and conference, and total class work. The experimentation of Alpert⁷ indicates that classroom organization that emphasizes group work greatly may do so at the cost of cognitive learning. A balance of indi-

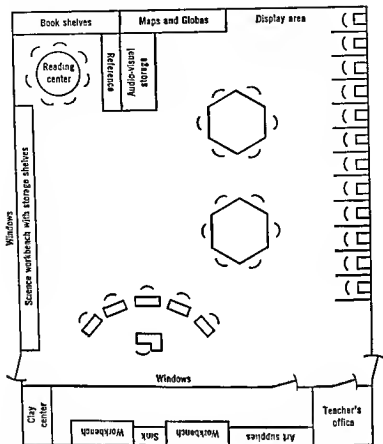
vidual activity and social contact types of activity may be essential for the individual to establish identity in a field of cognitive learning. On the other hand the values that accrue from group work have also been indicated by some experimentation. In the chapter on learning, the importance of the teacher-pupil relationship was stressed and needs to be recognized in planning classrooms. Opportunity for some degree of privacy for the teacher-pupil conference would help this relationship to be more profitable. The fact that different children learn best through different sense modalities and that all learning is probably facilitated if more than one sense modality is employed suggests that classrooms need to be planned wherein the facilities for all types of learning—visual, auditory, kinesthetic—can be provided.

The teacher and the building

The teacher's participation in planning the building, particularly the classrooms, will help to insure the utility of the building for child living. The teacher's functions should be further studied in relation to future building. The closer relationship of parents and the school as evidenced by the growth of the teacher-parent conference method of reporting and other developments suggests that the school building may need to reflect this. Most building arrangements provide no privacy for the teacher either for parent conferences, discussions with individual pupils, or just plain need to be shut off from the rest of humanity for a time. A few buildings provide a teachers' room, often won by the teachers' association instead of arising out of the planners' recognition of the needs to be served by it. A small office for the teacher adjacent to the classroom is a professional necessity.

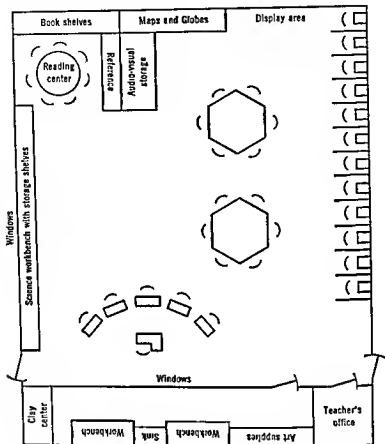
A special classroom

The classroom shown on the following drawing reflects the theory of learning developed in the text. Obviously it is but one example of such planning. Basically, it recognizes the need for individual privacy by providing for private study booths. The booths are removable, folding into the end of the room. The booths allow for cognitive types of learning in isolation. They favor some phases of the creative process. They remove children from the constant barrage of stimulation from others in the room. For some children this opportunity for isolation may be an essential for the



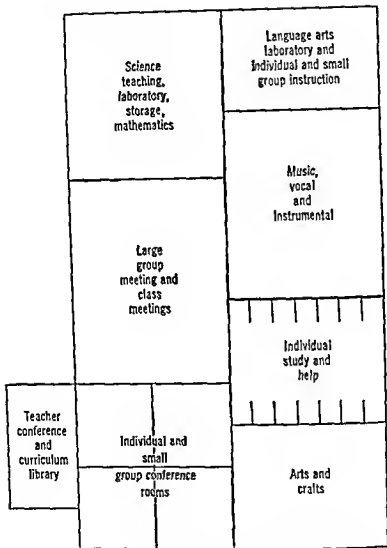
SKETCH OF A FIFTH GRADE ROOM SHOWING PROPOSED INDIVIDUAL BOOTHS, SMALL GROUP ARRANGEMENTS, AND LARGE GROUP SPACE.

preservation of their equanimity. We often ask children to exercise more control than their maturity warrants. They are often asked to live all day in a crowded classroom ignoring the social approaches of other children except when the teacher approves. A classroom planned for part-time isolation can meet several needs of children—and probably of teachers as well. The classroom also provides for work areas for small groups. A building should be planned to allow for the development of individuality in all the ways



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SKETCH OF A TEAM-TEACHING UNIT BASED ON THEORETICAL CONSIDERATIONS OF EFFECTIVE LEARNING. FOURTH, FIFTH, SIXTH GRADES WITH 150 PUPILS, OR 150 FIFTH-GRADE PUPILS.

ing arrangement that reflects the curriculum theory behind the proposal would allow for large group meetings, individual conferences, individual booth study, small groups, especial interests. The staff cooperative work required by such an arrangement would represent a substantial effort at curriculum revision.

The important point related to such experimentation involving curriculum and building is that all such projects should involve a careful, thorough, theoretical development and that their effects should be broadly and carefully evaluated in terms of pupil learning. Too much change is without theoretical justification and proper evaluation.

The esthetics of building

More attention has been paid to esthetics in school buildings in the last decade than ever before. The recognition that the environment of children is always used by them in their learning is resulting in attention to beauty inside and outside the building. Perkins⁸ book is ample evidence of this. Combined with these considerations are the psychological ones of welcoming entrances, flow between the inside and outside of the school. Not infrequently, however, the flow to the outside leads nowhere. Psychologically justified as it may be, the flow of a classroom to the outdoors also ought to lead to something—a garden, a work area, games area, the street—more often than it does.

A building and the classrooms in it should reflect a growing theory of how personality development takes place in our complex, dynamic culture.

BIBLIOGRAPHY

- Barnett, Muriel, "Should We Be Building Special Schools for Bright Pupils?" *School Management*, III, No. 4 (April, 1959), 29-30.
- Goodlad, John I., and Robert Anderson, *The Nongraded Elementary School*. New York: Harcourt, Brace and Company, Inc., 1959.
- Kostick, Max, and Lucretius Story, "Developmental Tasks for the Mentally Limited," *Peabody Journal of Education*, XXXVI, No. 3 (March, 1959), 291-303.
- McLaren, Inez E., *A Survey of the Interests of Gifted Children in Oakland, California*. Unpublished master's thesis, San Francisco State College, 1957.
- Miller, Vera, "Education of the Gifted," *American School Board Journal*, 139, No. 3 (September, 1959), 23-26, 66.

- Ross, Donald H., and Bernard McKenna, *Class Size: The Multi-Million Dollar Question*, Study No. 11, Institute of Administrative Research. New York: Teachers' College, Columbia University, 1955.
- Strevell, Wallace, and Arvid J. Burke, *Administration of the School Building Program*. New York: McGraw-Hill Book Company, Inc., 1959.
- Wilhelms, Fred T., "Grouping Within the Elementary Classroom," *NEA Journal*, XLV111, No. 6 (1959), 19-21

FOOTNOTES

1. Swearingen, Mildred, "What Difference Does Crowding Make?" *Educational Leadership*, XVI, No. 7 (April, 1959), 422-24, 427.
2. Goodlad, John I., and Robert Anderson, *The Nongraded Elementary School* (New York: Harcourt, Brace and Company, Inc., 1959).
3. "High Ability Classes Questioned," *New York Times*, August 2, 1959.
4. Strevell, Wallace, and Arvid J. Burke, *Administration of the School Building Program* (New York: McGraw-Hill Book Company, Inc., 1959), p. 28.
5. *Ibid.*, p. 13.
6. Alpert, Richard, and R. N. Haber, "Anxiety in Academic Achievement Situations," *Dissertation Abstracts*, XVIII, 1958, 643.
7. Stetson, G. Arthur, and James P. Harrison, "A Junior High School Designed for Team Teaching," *American Board Journal*, 140, No. 5 (1960), 38-41.
8. Perkins, Lawrence B., *Work Place for Learning*. New York: Reinhold Publishing Corporation, 1957.

15. THE SCHOOL BOARD, THE LAY PUBLIC, AND THE CURRICULUM

THE SCHOOL BOARD as the agent for the state has the responsibility for curriculum development within the statutory provisions of each state. The extent of this authority is limited not only by state law but also by the rights of parents. A school board may prescribe studies other than those required by state law; however, it cannot deny the parent's right to make a reasonable selection of subjects from those offered by the school.¹ For the parent to exercise such a right, however, it must be evident that his demand is reasonable, that it does not disorganize the school nor result in impairment of the education of other children who attend the school. A requirement of a board that students take instruction in music² was upheld by the courts; an Ohio court³ sustained a board's requirement that students take rhetoric. The courts have also upheld school authorities' rights to prescribe the method of instruction.⁴ Within the statutory regulations of the state the board has power to require that students take the work that meets these regulations. On the other hand, the weight of court decision is that in other subject areas

than those required by law the parent retains the right of choice. The board cannot require participation in work or extracurricular activities contrary to the religious beliefs of parents, as these pertain to moral issues.

THE BOARD AS POLICY MAKER

The role of the school board is policy making. In practice it frequently strays from this role but always to the disadvantage of the board and the schools. Reeves³ summarizes the functions of the board in the curriculum and instruction areas as follows:

1. Fixing the number of months in the school year at or above the minimum requirements of law, the times of opening and closing schools, and the hours of daily sessions.
2. Determining subjects of instruction within the requirements of law.
3. Providing materials of instruction, including textbooks, school supplies, and audio-visual materials for school use.
4. Adopting textbooks recommended by the superintendent as selected by committees of instruction employees after careful consideration.
5. Having the flag of the United States displayed on school buildings or grounds.
6. Awarding diplomas of graduation.
7. Making special provision for the instruction of children having various kinds of physical, mental, or social defects.
8. Deciding whether or not the public schools shall provide the means for adult education.
9. Deciding whether or not the schools shall be extended downward into preschool years, and, in some states, upward into the college years.

In practice the curriculum has tended to become largely the property of the professional employees of the district. School boards for many years devoted themselves to the pressing problems of physical growth, buildings, site acquisition, and finance. Since World War II, however, there has been rising interest in curriculum issues on the part of school board members. A preconference questionnaire recently sent to 1100 board members asking the topics they wanted to discuss at board conference resulted in the largest number of requests for curriculum. A decade ago the response heavily favored finance and school buildings.

PUBLIC ANXIETY AND THE SCHOOL BOARD

The school board is in a difficult position which it shares with the professional educator in anxious times like the present. The public concern for the future, stimulated by international tensions, dangers, and competition, tends to center on the children. *The school's role in helping children meet this future comes increasingly into question, and the query, "What are the schools teaching our children?" sets off anxious criticism, bitter attacks, and unconscious scapegoating of the schools. In all this the school board shares.*

There is also more awareness by school boards that they have tended to by-pass the important part of the school, leaving curriculum entirely to the professional. The handicaps of the professional become obvious to the board in more critical times. Even the most insightful professionals find it difficult and sometimes impossible to bring about changes in the schools when the general community attitude is complacent. The professional tail cannot ordinarily wag the community dog. When times change and the renewed concerns of parents are again focused on the schools, the query is often not, "Why haven't we (the community) been doing something about these problems?" but rather, "Why haven't you educators been meeting this problem?" Recrimination, of course, is ordinarily pointless, as professional and lay people alike are caught in a cultural net. The lay public learns again that in a free society the responsibility for important concerns like education can never be turned over permanently to any small group, professional or not. The lay public in a free society recurrently has to interest itself in how the general policy, expressed or implicit, is working. This is presumably where we are now and perhaps will be for the remainder of this century.

PROFESSIONAL-BOARD CONFLICT

The professional staff sometimes resents the authority of the school board over the staff's decision-making regarding curriculum. The source lies in the difference in the training of the two groups. The professional spends years in preparing himself to operate the school, but finds that even when research and professional opinion indicate a change in the school program

the board may decide to ignore both. There are professionals who would like to decrease lay authority and intervention in school affairs, following the pattern of English and Australian schools, for example. The organization of schools under a state civil service administration has also been proposed.

The following considerations bear on the nature of the ultimate solution of the problem of professional-board conflict:

1. The goals for American education are very broad including social, personal, citizenship, and academic objectives that overlap and intertwine with the role that parents and people in the community also play in the development of children. The separation of professional and lay groups under these conditions makes the whole socialization process less effective, perhaps impossible and absurd. The school is a part of the community; it uses, needs, and reflects the community. It cannot be set apart from it.

2. In a free society the entire educational process—how children learn, what conditions affect the growth of individuals, how values are acquired—needs to be understood by parents, not just professionals. A society cannot lift itself by its bootstraps unless interaction between professional knowledge and the broader needs of the lay public is stimulated. The school's desire to be free of irresponsible criticism can only be fulfilled if many parents understand the total learning process. Much of the confusion that appears to exist arises from the lack of this knowledge.

3. The third consideration is that of financing. We are committed to a program of universal education to the support of which everyone contributes in some degree, hopefully on the basis of ability to pay. The interest and participation of the lay group in how its money is spent is, and ought to be, high. Furthermore, the continuation of support is better assured by participation of the lay group. In countries where lay participation is discouraged, financial support is often also hard to secure.

These three considerations, the indivisible aspect of community-parent-school responsibility for child socialization, the consequent need for lay understanding of the learning process, and the expectation that financial support will be adequate only if people are involved as participants, lead to the general conclusion that participation by at least a significant part of the lay community is essential to the success of the total educational process.

CURRICULUM EVALUATION BY THE BOARD

The school board cannot avoid its responsibility to evaluate continuously "how things are going." Although it must rely chiefly on its executive officer, the superintendent, for direction in its evaluation of the school curriculum, it must also exercise independent judgment in deciding what, how, and when to evaluate. This places the board in a difficult position because of the possibilities of intrusion into professional prerogatives and into fields where they have inadequate information. The board and any other lay group may find itself making irresponsible criticisms and demands. Its criticism becomes irresponsible when it has failed to make use of research data available on the problems before it. *Boardsmanship*⁶ suggests that boards should give attention to such recognized means of evaluation as the following: drop-out studies, follow-up studies of graduates, results of evaluation programs including testing, evaluations by staff and outside experts, discussions with staff personnel as to practices now used in the school and their research basis. Nordby and Grant⁷ reported that over a twelve month period twenty-four reports on curriculum matters were made to their school board. The reports were usually prepared cooperatively by two or three staff members and were made up of a two or three page statement including goals, methods, and learning materials used. Reports included such topics as, "How We Teach Reading," "Arithmetic in the Elementary School," and "Library Services in Our Schools." An exhibit of related materials was prepared for board perusal. The curriculum coordinator introduced the report, and area specialists, staff, teachers, librarians, and others most involved then continued with the report. The value of this procedure, now fairly common, depends on the development of the report itself. If it increases the board's understanding of the basis for curriculum practice, it should provide the schools with valuable, informed support.

CURRICULUM METHODS AND THE BOARD

At some time the fiction grew up that boards should be concerned with content but not with methods. Methods were thought to be the particular field of the professional educator. The boards' intrusion into methods was regarded with grave misgivings. The professional complaint was, "Why

did we devote all these years to preparing for a career in education if the lay groups, including the board, are going to tell us how to conduct classes?" However, few now will try to separate curriculum from method. The methods used are of great significance in the development of children. The way in which the child learns determines *if* he learns and *what* he learns in the way of attitudes and values concomitantly with the content—if content be factual learning. There are two important points to be made around this idea for board participation: (1) responsibility—the board must act in the light of information only, of research findings, of logical inference; and (2) the board's role—the board is in a policy making role only; its concern with methods must be exercised at the policy-making level, and the same is true of evaluation of the curriculum. The board should not ordinarily put itself into the vulnerable position of requiring specific changes in methods. However, where the methods used in a school are authoritarian, calling for *memoriter* ways of learning and arbitrary human interaction, the board is remiss in its duties if it does not seek to change the methods used in the school. There is enough evidence to show that such ways of learning handicap the child for participation in a free, novelly developing society. Where methods used are generally so *laissez-faire* that the energy of students for learning is poorly channeled, the board may also seek to change the methods employed.

THE EDUCATION OF THE SCHOOL BOARD

A board member is no longer a political representative of the community or a segment of it. Nor is he a member of a quasi-public corporation with limited responsibility for knowing the entire operation. Much of the difficulty boards have been involved in, and much of the disapproval that has grown up in some quarters regarding board operation, has been due to the relative ignorance of the board members. Schools have become a complicated operation touching the very core of society's system of values and the very heart of parents' concerns for their children. Election to the board carries with it a commitment to learn. This learning includes the sociological, psychological, philosophical, anthropological, and educational bases of the schools' operation. If Operation Bootstrap is to succeed, the education of the board must proceed along with that of the professional and lay community.

SCHOOL BOARDS AND LAY ADVISORY GROUPS

The school cannot represent the entire community's ideas. Any urban area is too complex for this. Also the school board, being made up of from three to five members ordinarily, by no means contains within it all the resources of ideas and technical information that the community affords. In tapping the immense human resources of the community the board acts as a liaison body that helps to find and channel participants into the work of the school. There are several ways of doing this; perhaps the most common is the device of the citizens' advisory committee.

There are some fifteen thousand lay advisory groups working in some kind of relationship to the schools in this country. Crewson, Toy, Storen, Hamlin, Jeffrey, Misner, and many others have advocated lay participation in the development of the school curriculum. Generally the school board aids in establishing an advisory committee that has a recommending and advisory relationship only with the board. Membership in such advisory committees is usually built with the proviso that interested individuals meet certain broad criteria, one of them being devotion to the idea of universal public education. Most of the advisory committees organize subgroups to work on specific needs of the school. The Kalamazoo⁸ advisory committee, for example, has a membership of eighty-seven and has set up twenty-two subcommittees. Some of these have to do with specific curriculum problems or areas.

Wilkinson⁹ makes the sensible point, "If the ordinary layman can make decisions and suggest actions in a manner comparable to someone who has been trained in this area, then there is no place for specialists in education." He goes on to suggest the conditions under which laymen can make a contribution. "Laymen should be brought in at the orientation level in order for them to understand objectives of the instructional program and plans formulated for curriculum development. After a study has been made of the existing situation, educational leadership should continue to extend greater opportunity for lay participation for the purpose of developing a perspective of the total program. No attempt should be made to involve people in developmental activities associated with the production of courses of study and the evaluation of the instructional program unless individuals have participated in a program of orientation for curriculum study and appraisal."

It seems justified from experience of many schools that Wilkinson's

precautions are wise. False roles and inadequately performed roles urged on laymen can only injure that school's cause. It emphasizes again the importance of Toy's¹⁰ remark that "Such a group's first duty is self-education. Their function must be fact-finding, not fault-finding."

Regardless of the pessimism over poorly developed lay participation there are many instances of successful participation. It is an indication of a healthy democratic society that laymen can be involved deeply in the problems of education.

BIBLIOGRAPHY

- Collins, R. L., and H. M. Brickell, "Helping the Public Participate in Curriculum Development," *Education Leadership*, 15 (April, 1958), 415-18.
- Crewson, W., "Involvement of the Lay Community in the Development of the Curriculum," Syracuse University, *Frontiers of Elementary Education*, IV, 69-73.
- Hamilton, Robert R., and E. Edmund Reutter, Jr., *Legal Aspects of School Board Operation*. New York: Teachers' College, Columbia University, 1958.
- McKune, E. J., "Do Educators Want Laymen's Help?" *School Executive*, 75 (February, 1956), 62-65.
- Misner, P. T., "Citizens and Teachers Plan the Curriculum," *National Parent-Teacher*, 50 (May, 1956), 26-27.
- Stephenson, H. H., "Who Should Build the School Curriculum?" *Teachers' College Journal*, XXVIII, No. 1 (December, 1956), 43-44.
- Storen, H. F., "Role of Laymen in Curriculum Planning," *Educational Leadership*, 9 (February, 1952), 275-80.
- Toy, H., Jr., "Planning Curriculum With Citizens," *School Executive*, 74 (November, 1954), 19-21.
- Wilkinson, D. H., "Some Factors That Complicate Lay Participation in Curriculum Development Programs," *Educational Administration and Supervision*, 45 (May, 1959), 173-78.

FOOTNOTES

1. *State v. Ferguson*, 95 Neb. 63, 144 N. W. 1039, 50, L. R. A. (N. S.) 266; *Morrow v. Wood*, 35 Wis. 59, 17 Am. Rep. 471; *Trustees of Schools v. People*, 87 Ill. 303, 29 Am. Rep. 55.
2. *State v. Weber*, 108 Ind. 31, 8 N. E. 708, 58 Am. Rep. 30.
3. *Sewell v. Board of Education*, 29 Ohio St. 89.
4. *Wulff v. Inhabitants of Wakefield*, 221 Mass., 427, 109 N. E. 358.

5. Reeves, Charles E., *School Boards* (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1954), p. 158.
6. *Boardsmanship* (Long Beach, California: California School Boards Association, 1955), p. 27-28.
7. Nordby, Theodore J., and A. Grant, "Curriculum Report to the Board," *American School Board Journal*, 131, No. 2 (August, 1955), 32.
8. Storen, Helen F., "Role of Laymen in Curriculum Planning," *Educational Leadership*, IX, No. 5 (February, 1952), 275-80.
9. Wilkinson, D. H., "Some Factors That Complicate Lay Participation in Curriculum Development Programs," *Educational Administration and Supervision*, XLV, No. 5 (May, 1959), 173-78.
10. Toy, Henry H., "Planning Curriculum With Citizens," *School Executive*, 74 (November, 1954), 20.

16. CURRICULUM DIRECTOR AND CURRICULUM CONSULTANTS

AS NEW SERVICES develop in a school system, the initial problem of defining the role of the personnel may be difficult. It takes time to work out a definition of role that will allow the individuals connected with new services to be efficient and to eliminate overlapping into other positions. When a school system first employs a curriculum director, the first problem of the director is often to define what he is to do. The position of curriculum director or coordinator tends to be a catch-all at first. It frequently includes administrative and public relations functions that have little to do directly with the improvement of instruction or curriculum work. Personnel in a new service in a district often assume more responsibilities than they can carry. Their anxiety to prove that the service is valuable may lead them into assuming an impossible variety of functions. This leads to dissatisfaction with the service and the personnel connected with it. Just as the incredible overloading of school psychologists often leads to dissatisfaction and resistance to the continuance or expansion of the service, so the overloading of the

curriculum director raises doubts as to the value of the work. It may be that services poorly performed because too much is attempted are actually of little worth, and the service should be discontinued if a workable staffing policy cannot be secured. Commenting on this problem Mackenzie¹ writes: "Lack of clarity on the part of curriculum workers as to their roles may result in diffuse and random efforts which do not contribute to the building of needed skills and appropriate channels for productive effort."

There have been a few attempts to define the position of curriculum director, curriculum coordinator, assistant superintendent in charge of instruction, or director of instruction, these terms being the most common titles for the position. One of the studies, made by the New Jersey Curriculum Directors,² suggests that the curriculum director should have responsibility for activities like the following:

1. Planning the curriculum program.
2. Working with evaluation of the appropriateness of the curriculum and the effectiveness of the program of development.
3. Directing the formation of policies and philosophy of education.
4. Directing work on curriculum materials.
5. Using research and organizing curriculum research in the schools.
6. Coordinating other personnel dealing with curriculum and instruction.
7. Helping to integrate curriculum and guidance functions.
8. Organizing lay participation in curriculum development.
9. Organizing facilities and materials for curriculum development.
10. Working with other school personnel as a technical consultant and advisor on curriculum problems.
11. Helping to interpret curriculum to the school board and the public.
12. Organizing in service education of teachers.
13. Working on articulation of curriculum among the different levels in the school system.

Sharp³ reporting on the study earlier found that the activities of the curriculum directors in order of time actually spent were, (1) curriculum improvement activities, (2) activities to facilitate the curriculum development program, (3) personal professional growth, (4) preparation and provision of resources, and (5) community relations.

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should expect to have some responsibility, albeit secondary, for such things as these: helping orient new teachers, budget recommendations, selecting teachers, building planning, conferring with representatives who visit the school system, and representing the district at educational conferences, including reporting back to the staff.

Johnson and Wilson⁴ reporting on the leadership role of the curriculum director or director of instruction list eight areas in which creative work was done with the elementary principals: (1) functions of consultants and supervisors, (2) policy regarding use of new handwriting text and practice materials, (3) consolidation and interpretation of principles for making classroom schedules, (4) evaluation of the services of supervisors and consultants, (5) review and further study of the unit method of teaching, (6) policy for the equitable distribution of supplementary book funds, (7) plans for utilization of textbook publishers' consultants in reading and writing instruction, and (8) plans for an experimental program to strengthen instruction in reading in the upper grades.

It is apparent that these views of the curriculum director's work give him a coordinating, administrative function within the instructional sector of the schools' functioning. His coordinating function involves him not only with teaching personnel but with school psychologists, guidance workers, specialists in arts and crafts, music, library, industrial arts and physical education, curriculum consultants or supervisors, principals, lay groups, parents, pupils, and the central staff of which he is a coordinate member. His relationships to the individuals or groups of course are governed by his basic responsibility for instructional improvement and curriculum development. However, in practice his work easily spreads beyond the curriculum phase and a vigorous curriculum director sometimes moves into any vacuum that may develop in leadership in the system. This may bring him into conflict with the principals, personnel director, research director, or the superintendent. Although this conflict may serve eventually to clarify the relationships within the institution, it may also create unnecessary tensions in the institution and waste the time and energy of everyone. One of the first jobs of the coordinator would seem to be a delineation of his position for the particular system in which he is working. Although personnel functions will always be shaped to a degree by the particular constellation of interests and abilities making up a staff, there are real benefits to be derived from a definition of the position of curriculum

director for schools in general, and it would serve a useful purpose to training institutions which need a sharper focus in order to prepare curriculum workers.

Essentially the curriculum director is in administration. He is co-ordinate with personnel directors, business managers, and research directors; he works directly under the superintendent of schools, where there is a line and staff type of organization. He is not a curriculum consultant or supervisor. The curriculum consultant or supervisor is the person who works closely with the teachers and the principals of schools on implementing and improving curriculum. His coordinating function is at the building level. Reflecting the needs of the principal and staff, the curriculum consultant or supervisor channels into the particular school not only his own ideas but also those of the specialists in various areas such as art and music. The curriculum consultant or supervisor is a staff person, if the organization is of the line and staff kind. It is the function of the curriculum director to coordinate the work of the curriculum consultants or supervisors at one level, although much of what the consultants do will arise from the needs of the staffs of the schools with which they work.

REQUIREMENTS FOR CURRICULUM DIRECTOR

There is a distinction to be made between the skills of the curriculum director and the curriculum consultants or supervisors through whom the director works. His insight into his own psychological functioning is essential if his human relationships are to remain constructive. His scholarship in the broad fields of the humanities, social sciences, and the natural sciences, although it cannot be intensive, must be extensive and involve continuing growth. His technical knowledge of the curriculum field from unit construction to basic research on problems of concept development to organization of a staff for curriculum work must be superior.

He must be a person whose own fears, sense of inadequacies, and rivalries have been resolved so that he can free the creative abilities of others. His strengths should include the ability to find resources, to excite interest, and to stimulate new ideas in others. This he can do only if he can dissociate himself in the eyes of the entire staff from any image of self-seeking or power group building.

As developed in Chapter 10, the curriculum director should have a

genuine, practiced command of the group processes that may be employed in developing curriculum through staff participation. This he should be able to apply to both professional and lay groups.

THE CURRICULUM CONSULTANT

The curriculum consultant, through whom the director works in most of his relationships to teachers, requires somewhat different skills. He works much more closely with the experiences children have in school and with the teachers. He requires less of the ability to make swift administrative decisions and more of the ability to develop a warm, helpful relationship to teachers on the job. The importance of his own insight into his personality is greater, perhaps, because his relationships with others are closer and more related to the kinds of changes he wants to help bring about in teachers. He must be able to admit that he is wrong; his attitude is basically that of a learner, but his insight into the meaning of the behavior of children is necessarily more complete, and if he can communicate it to teachers his effectiveness is greatly improved. At first the consultant is often inclined to be preoccupied with many methods. They represent the kind of definite knowledge that he feels he needs to give to teachers. When the consultant becomes more secure he works more with the teacher and less in the role of telling the teacher, more with all the factors in a classroom and less with methods.

The consultant should be able to work with the personality problems of the teacher where they have an immediate bearing on teaching effectiveness. This is asking a great deal and most consultants have not had adequate training for this purpose. Yet this is often the basic improvement needed. Sophistication in the area of personality appraisal and the ability to work through with teachers some of their normal problems with children ought to become part of a consultant's training.

The consultant encounters the barriers of status, the teacher's fears, and the principal's status fears. He has to work through this with both teachers and principals. If he can strengthen the autonomy of the individual staff and its principal his work will be more effective in the long run. He has to recognize his own status needs and how they affect his working relationships. His sources of satisfaction ought to rise from facilitating others' work. If he can admit that he is wrong or that he does not know,

this helps. This all requires a maturity which all consultants need and some lack.

THE PSYCHOLOGIST

The curriculum director utilizes many resources within the school system, the clinical psychologist being a resource for both the director and the consultants. Involvement of the psychologist in curriculum work is actually a two-way street. The curriculum worker uses the psychologist's knowledge of the dynamics of child behavior to help teachers understand their children. But the psychologist also needs help to understand the classroom environment in which children work. He needs to know how the teacher can support his work with individual children through classroom experience. The teacher's job of ego development needs to be understood by the psychologist because it is complementary to his work with individual children. In relation to general problems such as relationships of teachers and children, classroom climate, or learning inhibitions, the clinical psychologist can contribute to in-service growth. He should be included on the general curriculum council and his relation to the curriculum consultant can be as a resource in the latter's work with individual teachers, parents, and children.

RELATIONSHIP TO SPECIALISTS

The specialists in such fields as arts and crafts, music, library, industrial arts, physical education, and science all need to get a complete view of the curriculum work in the schools, not merely their own sector. This can be accomplished at two levels. As members of the administrative council, or whatever the central staff meeting as a group may be called, they need to represent their own specialties but they also need to work hard on seeing the relation of their work to the total pattern. They also belong in the central curriculum coordinating council or committee discussed in Chapter 10 where they can work with teachers, principals, curriculum staff, and lay people who may make up the council. At the building level the specialist ought to work through the building curriculum committee, on which teachers, principal, and the curriculum consultant serve. This can accomplish better utilization by teachers of all curriculum services available.

BREAKING INTO SCHOOL BUREAUCRACY

The problem of bureaucracy in the school as an institution is too large to be discussed here. The growing concern over the increase in bureaucratic kinds of feelings and structure in schools as the systems become larger, however, has spread beyond the profession to lay groups that ordinarily support the schools. In looking at the relationships within the school's administrative structure it may be possible at many points to begin to suggest changes that will modify the trend. Some of these have been indicated in Chapters 10 and 11. The point of concern in this chapter is the relation between curriculum director, curriculum consultant, and the individual school. It is suggested that the curriculum consultant be made a part of the staff of the individual building, or two buildings, if this is necessary. The building teachers, principal, and curriculum consultant constitute an autonomous, planning, executive group concerned with the development of good education for the children in that school. Within this autonomous group there should be some division of function, but the relationship of teachers, principal, and consultant is an equal one. Problems met by the group ought to be worked through using research and group problem solving. When outside help is needed because the resources of the autonomous group are insufficient, this help should meet the needs discovered by the group itself and be specific for that purpose.

When the autonomous group cannot agree upon solutions, which is seldom, recourse may be had to the rules or policies formed by the board, the central council. Hence the rules and regulations of a bureaucracy are the last resort rather than the first step in a thinking decision-making process. Used in this way they are in a degree protective of the democracy of the small group.

The relation of the curriculum director to the autonomous group is that of organizer, facilitator, and consultant to its processes. He pulls together the work of all the autonomous groups and serves to provide necessary unity to the total curriculum work for the district.

CURRICULUM DIRECTOR AS EDUCATIONAL STATESMAN

The curriculum director is in a position where broad grasp of the important social issues of this society are needed. He needs to be more than a facilitator and organizer of other men's efforts. If he has little vision, it will be difficult

for those whom he seeks to coordinate to act wisely. He must not only be aware of the social and philosophical issues of his society, but he must know how to act in relation to his ideas. A professor of the disciplines may have this awareness but, unlike the curriculum director, he need not know how to act upon it. The curriculum director must have the skills and personal qualities that enable him to act and help others act in terms of the school's theories of society and personality development.

BIBLIOGRAPHY

- Doll, Ronald, Harold Shafer, Sarah Christie, and Jerome C. Salsbury, "What are the Duties of the Curriculum Director?" *Educational Leadership*, XV, No. 7 (April, 1958), 428-30.
- Freese, Theron, *Summary of the Position of Assistant Superintendent in Charge of Instruction for the School Year 1954-55*. Long Beach, California: Long Beach Public Schools, 1956.
- Kirk, Dwight L., *The Role of the Curriculum Director in the Administration of American Public School Systems*. Austin, Texas: School of Education, University of Texas, 1953.
- Laing, J. M., "Role of the Curriculum Coordinator," *Education*, 78, No. 2 (October, 1957), 87-89.
- Lawler, Marcella R., *Curriculum Consultants at Work*. New York: Bureau of Publications, Teachers' College, Columbia University, 1958.
- Leadership for Improving Instruction*. Washington, D. C.: Association for Supervision and Curriculum Development, Yearbook, 1960.
- Sharp, George, "Curriculum Coordinators Study Their Jobs," *Educational Leadership*, XII, No. 8 (May, 1955), 464-66.

FOOTNOTES

1. Mackenzie, Gordon, "Expectations that Influence Leaders," Chap. III, *Leadership for Improving Instruction* (Washington, D. C.: Association for Supervision and Curriculum Development, Yearbook, 1960), p. 70.
2. *The Work of the Curriculum Coordinator in Selected New Jersey Schools* (New York: Bureau of Publications, Teachers' College, Columbia University, 1955).
3. Sharp, George, "Curriculum Coordinators Study Their Jobs," *Educational Leadership*, XII, No. 8 (May, 1955), 464-66.
4. Johnson, Paul, and Harold Wilson, "Educational Leaders in Action," Chap. IV, *Leadership for Improving Instruction*, p. 118.

BREAKING INTO SCHOOL BUREAUCRACY

The problem of bureaucracy in the school as an institution is too large to be discussed here. The growing concern over the increase in bureaucratic kinds of feelings and structure in schools as the systems become larger, however, has spread beyond the profession to lay groups that ordinarily support the schools. In looking at the relationships within the school's administrative structure it may be possible at many points to begin to suggest changes that will modify the trend. Some of these have been indicated in Chapters 10 and 11. The point of concern in this chapter is the relation between curriculum director, curriculum consultant, and the individual school. It is suggested that the curriculum consultant be made a part of the staff of the individual building, or two buildings, if this is necessary. The building teachers, principal, and curriculum consultant constitute an autonomous, planning, executive group concerned with the development of good education for the children in that school. Within this autonomous group there should be some division of function, but the relationship of teachers, principal, and consultant is an equal one. Problems met by the group ought to be worked through using research and group problem solving. When outside help is needed because the resources of the autonomous group are insufficient, this help should meet the needs discovered by the group itself and be specific for that purpose.

When the autonomous group cannot agree upon solutions, which is seldom, recourse may be had to the rules or policies formed by the board, the central council. Hence the rules and regulations of a bureaucracy are the last resort rather than the first step in a thinking decision-making process. Used in this way they are in a degree protective of the democracy of the small group.

The relation of the curriculum director to the autonomous group is that of organizer, facilitator, and consultant to its processes. He pulls together the work of all the autonomous groups and serves to provide necessary unity to the total curriculum work for the district.

CURRICULUM DIRECTOR AS EDUCATIONAL STATESMAN

The curriculum director is in a position where broad grasp of the important social issues of this society are needed. He needs to be more than a facilitator and organizer of other men's efforts. If he has little vision, it will be difficult

for those whom he seeks to coordinate to act wisely. He must not only be aware of the social and philosophical issues of his society, but he must know how to act in relation to his ideas. A professor of the disciplines may have this awareness but, unlike the curriculum director, he need not know how to act upon it. The curriculum director must have the skills and personal qualities that enable him to act and help others act in terms of the school's theories of society and personality development.

BIBLIOGRAPHY

- Doll, Ronald, Harold Shafer, Sarah Christie, and Jerome C. Salsbury, "What are the Duties of the Curriculum Director?" *Educational Leadership*, XV, No. 7 (April, 1958), 428-30.
- Freese, Theron, *Summary of the Position of Assistant Superintendent in Charge of Instruction for the School Year 1954-55*. Long Beach, California: Long Beach Public Schools, 1956.
- Kirk, Dwight L., *The Role of the Curriculum Director in the Administration of American Public School Systems*. Austin, Texas: School of Education, University of Texas, 1953.
- Laing, J. M., "Role of the Curriculum Coordinator," *Education*, 78, No. 2 (October, 1957), 87-89.
- Lawler, Marcella R., *Curriculum Consultants at Work*. New York: Bureau of Publications, Teachers' College, Columbia University, 1958.
- Leadership for Improving Instruction*. Washington, D. C.: Association for Supervision and Curriculum Development, Yearbook, 1960.
- Sharp, George, "Curriculum Coordinators Study Their Jobs," *Educational Leadership*, XII, No. 8 (May, 1955), 464-66.

FOOTNOTES

1. Mackenzie, Gordon, "Expectations that Influence Leaders," Chap. III, *Leadership for Improving Instruction* (Washington, D. C.: Association for Supervision and Curriculum Development, Yearbook, 1960), p. 70.
2. *The Work of the Curriculum Coordinator in Selected New Jersey Schools* (New York: Bureau of Publications, Teachers' College, Columbia University, 1955).
3. Sharp, George, "Curriculum Coordinators Study Their Jobs," *Educational Leadership*, XII, No. 8 (May, 1955), 464-66.
4. Johnson, Paul, and Harold Wilson, "Educational Leaders in Action," Chap. IV, *Leadership for Improving Instruction*, p. 118.

EPILOGUE: THE BALANCED CURRICULUM

A BALANCED EXPOSURE TO THE UNIVERSE OF THINGS AND VALUES. The reality of the child's world, and the adult's, is a complex reality. It is made up of his relationships with other children and with adults, of great expanse of sky beyond which lies an orderly but unknown universe, of music and the inner joys of listening and creating, of art that is graphic feeling, of horsetails that grow by the pond and the photoelectric cell that catches energy from light, of institutions that have to be understood—and changed now and then, of love, of inner sadness, of failure and triumph, and of growing up. For getting to know all this there must be time, precious, unhurried time: for each a moratorium on anxiety, pressure, and premature demands for winning. The balance that we want is built within the child—*freedom from distorting conflict, freedom from rigid compulsion, and flexibility to live, to create, to love and laugh and work.*

INDIVIDUALITY AND BALANCE. In a sense there is only one criterion

of balance, and that is the individual with inner and outer command of himself and his environment. A balanced curriculum is balanced for one individual; for another the elements that bring balance may be a little different. The adults of this generation beset with the anxieties of the age, as they have always been, tend to unbalance the experiences of children. More science and more mathematics may be good, but they may also be excluding experiences needed for complete development of the individual. The elementary school period is the time when the child learns to become a learner. The school is his protector while he does this important learning. It brings the world into the classroom—the whole world, not just a piece of it—and lets the child learn it as he is ready. The adults of the age see so much to be learned that they often feel they must start children earlier and earlier, invading the period of moratorium, hastening choices, and crowding out the child's own will and motivation.

THEORY AND BALANCE. It is the theme of this book that balance is achieved when we concern ourselves with understanding the complex process of individual growth. If this is made the focus of curriculum effort we shall not be pulled into the fallacy of premature factual emphasis nor shall we fail to respect the autonomy of the child in his own learning. Only an adequately complex theory of human growth and behavior can preserve for children a balanced experience with the things and values of their universe. This theory we need to develop and test with all possible speed.

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